A unique device ("The College Suggestor") was developed for classifying for instant retrieval characteristic information on some 1,930 junior colleges, colleges, and universities in the United States and its territories. In using it an individual would identify those institutional characteristics closely related to his personal abilities, interests, and needs. He could accomplish this under counselor guidance or as an independent activity. The individual would then follow the following procedures: (1) Select cards from "The College Suggestor" descriptive of the characteristics in which he is interested, (2) Square off the chosen card deck, (3) Hold the deck against a light source, and (4) Identify by code number those institutions which have the combined characteristics pertaining to his preidentified interests. College characteristics were organized into the following classification: (1) Location, (2) Size, (3) Control, (4) Prerequisites, (5) Admission Information, (6) Costs, (7) Financial Aid, (8) Program, (9) Student Body Characteristics, (10) Faculty Characteristics, (11) Available Degree Majors, and (12) Available Occupational Programs. The device had yet to be field tested. Plans and objectives for such a test program were described. (Refer to accession numbers ED 010 104, ED 010 105, and ED 010 106 for supplemental documents to this report.) (JH)
THE COLLEGE SUGGESTOR
A Data Retrieval Device for Use
as a
Guide to College Choice

Department of Health, Education, and Welfare
Office of Education
Project No. X-014
Contract No. OE-6-1C-147

Submitted by
NORTHWESTERN UNIVERSITY
with the cooperation of
EDUCATIONAL TESTING SERVICE

Project Director
B. Claude Mathis

*** ***
The Office of Education permits and accepts the following disclaimer clause.

"The prime and subcontractor who participated in the collection and organization of this data disclaim any advocacy as to the value or usefulness of the data or its current (11-21-66), or complete accuracy, at this stage of its development.

Herbert Duffy
Acting Director
Contracts and Construction Service
U.S. Office of Education
Department of Health, Education, and Welfare
The development of the College Suggestor, a data retrieval device for use as a guide to college choice, was proposed to the Office of Education during the Spring of 1964 by Northwestern University and the Educational Testing Service. Interest in the development was initiated by the Office of Education through informal conversations between Francis Keppel, then Commissioner of Education, and others on his staff at that time. Northwestern University and the Educational Testing Service submitted a proposal and were funded to accomplish the following objectives:

1. Determine the college and university characteristics which are important to counselors, parents, and students.

2. Collect the desired information about the colleges and universities throughout the United States.

3. Develop one set of reproducible masters of the device which will apply the principle of optical coincidence.

4. Convene an advisory committee to evaluate the activities involved in the development of the prototype and to offer advice and recommendations concerning the use, evaluation, and further development of the College Suggestor.
The narrative which follows delineates the accomplishment of these objectives by presenting 1) an explanation of the retrieval system, 2) a description of the procedures involved in the assembling of the characteristics, 3) the preparation of the reproducible masters, 4) the proceedings of the meeting of the National Advisory Committee, and 5) the recommendations of this Committee and of the staff personnel involved in the project.

The College Suggestor is a manual optical coincidence, inverted file card sort system. It does not involve the use of machines. The system is made up of transparent plastic cards underprinted with opaque and translucent inks. Each card describes a single characteristic and contains a mark to identify each college with that given characteristic. Each college has the identical grid position in every card. When a college has present within it the characteristic represented by a specific card, a "hole" is placed in the college's position on the card. Thus, a "hole" indicates the presence of a characteristic at a college, and all colleges with a given characteristic are identified by "holes" in that characteristic card.*

To retrieve data from the system, the optical coincidence principal is used. Individual cards are selected by hand representing college characteristics available and of interest. The selected cards are

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*The organization of information by characteristic rather than by college constitutes inverted filing. Use of "holes" to identify colleges constitutes optical coincidence.
superimposed one on the other. Where "holes" in the cards are coincident, points of light are visible. The optical coincidence which produces points of light constitutes a match of stored information with respect to a search question concerning colleges with given characteristics. These light dots, then, represent colleges having the selected characteristics in common. At the position of the light dots, reference numbers are available. These are used to identify by name the colleges which have been turned up as a result of the search.

The College Suggestor classifies for instant retrieval information characterizing some 1,931 junior colleges, colleges and universities. The system can be used either through prior planning of college characteristics of interest, or by browsing in order to determine those characteristics which are relevant in a given situation.

In use, a student would identify those characteristics of colleges related to his own abilities, interests and needs. He would do this either under guidance by a counselor or as an independent activity. He selects cards from the College Suggestor descriptive of the characteristics in which he is interested, squares off his deck of cards, holds the deck against a light source, and thereby identifies by code number those colleges which combine all of the characteristics he has identified as of interest to him.

As is implied above, one of the stronger features of optical coincidence is its browsing mode. If the individual turns up too
many colleges, he may add additional characteristics cards; if he feels the need for a larger selection of colleges, he may remove cards representing overly restrictive characteristics which are of secondary importance to him.

On having turned up a reasonable number of points of light, he identifies the colleges by name by decoding the numbers surrounding those light spots. On completing this task, he returns the cards he has been working with to the main deck, and the College Suggestor is then ready for its next user.

With a slate of colleges to study in greater detail, then, the student turns to handbooks, guides, and college catalogues in order to learn enough about the respective institutions to narrow down his choices to the very few to which applications for admission and/or placement will be filed.

College characteristics are organized into twelve classifications as follows: location, size, control, prerequisites, admission information, costs, financial aid, program, characteristics of student body, characteristics of faculty, degree majors available, and occupational programs available. The full list of 217 college characteristics appears at Appendix 3.

The developmental activity was initiated with a search of the literature, specifically to ascertain those criteria of college choice which have been found to be significant with respect to decisions reached by or on behalf of the college-bound. Further, individual descriptors of college characteristics were composed.
and organized into groups such that the total file of information would yield meaningful and significant "profiles" of the colleges. About half of the information on the colleges was in computer files in the United States Office of Education. Duplicate files of these data were assembled. The data were organized on Educational Testing Service computers into the College Suggestor format. One hundred nineteen characteristics in the College Suggestor were processed in this manner. This information, on print-out manifolds, was sent to each institution for verification. In order to collect the remaining information for the College Suggestor, a special Questionnaire was designed. The College Suggestor Questionnaire is shown at Appendix 2. This questionnaire was designed to supply data for the remaining 98 characteristics. An attempt was made in designing this questionnaire to insure that the information asked for was readily available to the respondent. The Director of Admissions was requested to complete the questionnaire. It was pretested by mail, and some admissions officers were interviewed to ascertain their reactions to the questions. The President of each institution was sent a copy of the questionnaire, so that he would be aware of the project and also to advise him of the information that was being requested from his school. Each questionnaire returned was reviewed for omissions. When omissions were found, a copy of the page containing the omission was returned to the institution with a request for a prompt reply.
A follow-up letter was mailed as a reminder to those who had failed to reply to our original request for filling out the questionnaire. A thank-you letter was sent to each responding institution expressing our appreciation for the time they took to participate in the project.

The questionnaire was sent to 2,154 junior colleges, colleges, and universities in 50 states, Puerto Rico, Guam, and the Panama Canal Zone. The universe represented a modified Higher Education, Part III listing supplied by the Office of Education. As questionnaires were returned, many were discovered which did not belong in the universe represented by the College Suggestor. Graduate schools and seminaries closed to the general public constituted the majority of such institutions. Some schools were no longer operating. One college had even become a high school. The final universe totals 1,931 institutions from a net return of 1,647. A high proportion of those not responding are community junior colleges.

Table I shows the distribution of returned questionnaires by state. Table II shows the schedule followed in the collection of the questionnaire data and the convening of the National Advisory Committee. A list of colleges not responding to the questionnaire is presented at Appendix 4.

Questionnaire returns were key punched into cards, the information through this means was fed into the computers and processed into the College Suggestor format. Ninety-eight characteristics were added to the College Suggestor in this manner.
## TABLE I -- RESPONSE TO COLLEGE SUGGESTOR QUESTIONNAIRE

<table>
<thead>
<tr>
<th>State</th>
<th>Number Responded</th>
<th>Did Not Respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>Alaska</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Arizona</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Arkansas</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>California</td>
<td>123</td>
<td>25</td>
</tr>
<tr>
<td>Colorado</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Connecticut</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Delaware</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Washington, D. C.</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Florida</td>
<td>37</td>
<td>9</td>
</tr>
<tr>
<td>Georgia</td>
<td>42</td>
<td>2</td>
</tr>
<tr>
<td>Hawaii</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Idaho</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Illinois</td>
<td>83</td>
<td>8</td>
</tr>
<tr>
<td>Indiana</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Iowa</td>
<td>47</td>
<td>4</td>
</tr>
<tr>
<td>Kansas</td>
<td>41</td>
<td>3</td>
</tr>
<tr>
<td>Kentucky</td>
<td>27</td>
<td>4</td>
</tr>
<tr>
<td>Louisiana</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Maine</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Maryland</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>74</td>
<td>13</td>
</tr>
<tr>
<td>Michigan</td>
<td>49</td>
<td>7</td>
</tr>
<tr>
<td>Minnesota</td>
<td>37</td>
<td>4</td>
</tr>
<tr>
<td>Mississippi</td>
<td>29</td>
<td>16</td>
</tr>
<tr>
<td>Missouri</td>
<td>42</td>
<td>11</td>
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<tr>
<td>Montana</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Nebraska</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Nevada</td>
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<td>0</td>
</tr>
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<td>New Jersey</td>
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<td>3</td>
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<tr>
<td>New Mexico</td>
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<td>1</td>
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<td>New York</td>
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<td>15</td>
</tr>
<tr>
<td>North Carolina</td>
<td>48</td>
<td>11</td>
</tr>
<tr>
<td>North Dakota</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Ohio</td>
<td>61</td>
<td>1</td>
</tr>
<tr>
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<td>1</td>
</tr>
<tr>
<td>Oregon</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>97</td>
<td>11</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>South Carolina</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>South Dakota</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Tennessee</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>Texas</td>
<td>82</td>
<td>11</td>
</tr>
<tr>
<td>Utah</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Vermont</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Virginia</td>
<td>37</td>
<td>4</td>
</tr>
<tr>
<td>Washington</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>West Virginia</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>42</td>
<td>15</td>
</tr>
<tr>
<td>Wyoming</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Canal Zone</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Guam</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Virgin Islands</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
**TABLE II -- COLLEGE SUGGESTOR SCHEDULE**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire mailed</td>
<td>Last of October - first of November, 1965</td>
</tr>
<tr>
<td>Omission letters sent</td>
<td>Through November and December, 1965</td>
</tr>
<tr>
<td>Follow-up letter and two-page description</td>
<td>December 3, 1965</td>
</tr>
<tr>
<td>sent to 450 colleges</td>
<td></td>
</tr>
<tr>
<td>Thank-you letter and two-page description</td>
<td>December 17, 1965</td>
</tr>
<tr>
<td>sent to 1700 colleges</td>
<td></td>
</tr>
<tr>
<td>Second follow-up sent</td>
<td>January 7, 1966</td>
</tr>
<tr>
<td>to ten &quot;important&quot; colleges who partially filled out questionnaire</td>
<td></td>
</tr>
<tr>
<td>Invitations sent to Advisory Committee</td>
<td>January 31, 1966</td>
</tr>
<tr>
<td>Final thank-you letter to 150 colleges</td>
<td>February 3, 1966</td>
</tr>
</tbody>
</table>

Meeting of Advisory Committee, February 28 - March 1, 1966.
From the characteristics list the graphic arts materials have been prepared. Thus, there is now in existence a reproducible master for an optical coincidence card for each descriptor in the College Suggestor system. These reproducible masters are on file at Northwestern University. The effort involved in the preparation of these reproducible masters has been considerable. The preparation of the masters was staggered throughout the terms of the agreement. Working lists for groups of college characteristics were released for preparation into masters as soon as quality control procedures assured the accuracy of the information coded onto those lists. The preparation of reproducible masters from which optical coincidence cards can be manufactured has been in progress virtually throughout the tenure of the agreement. A photographic reproduction of a College Suggestor card made from a reproducible master is shown at Appendix 7.

Reproducible masters for the 217 college characteristics to be included in the College Suggestor system, along with this report, constitute the end-products of the developmental activity herein described.

Two kinds of "hard copy" lists and a magnetic tape comprise the output of computer processing. A "college list" is organized by college and contains under each college name the characteristic statements built into the system for that particular college. The "characteristics list" is organized by characteristic and contains
under each characteristic the code numbers of colleges to which that particular characteristic applies. The latter list has been written to magnetic tape.

Attention is now turned to matters relating to the design of the individual College Suggestor card and of the retrieval system into which the card fits.

Each criterion card is 8 1/2" x 10 3/4", to be fabricated of flexible, sturdy plastic, and to have "holes" and black identifying numbers in black rectangles displayed across the body of the card. The "holes" are to be created by surrounding a spot of clear plastic with colored opaque ink.

Tabs along the top edges of the cards and colored inks in the body of the cards are to be used to enhance the organization of the system and to expedite refiling of the cards after use. A number of "blank" cards will be issued with each set to permit the encoding and introduction into the system of additional college characteristics of interest to counselors for which they themselves will assemble the information to be encoded. They will encode their information by punching holes into the blank cards on which there will be a solid "spread" of colored ink.

The design calls for 217 cards and 3 blank cards to constitute the system; that is, 220 cards in all. These are to be organized in groups of twenty as shown in Appendix 3. All cards will have grids, numbers, and headings printed in black. Each group of twenty cards
will be printed in a different second color with eleven hues in all. These are to be organized in groups of twenty as shown in Appendix 3. All cards will have grids, numbers, and headings printed in black. Each group of twenty cards will be printed in a different second color with eleven hues in all. Color differentiation will help make it easier to keep the system in good order. Within each group of twenty, there are to be stepped die cut tabs, serially numbered 1 through 220. The combination of color and tab will assure easy location of a given card and its rapid return to file after use.

The 220 cards together with an instruction sheet and a college code list are to be housed inside a self-supporting box. The container will serve also as a functional work center. Designs for all these components of the system, and for an inexpensive light box to be made locally, have been completed.

For field testing purposes, project personnel are ready at a moment's notice to set into motion the actions necessary to convert these designs into the following manufactured end products.

2. An instruction card printed on plastic stock.
3. A college code list presented on card stock.

It is contemplated that fewer than 500 sets of the device are to be made to implement field testing objectives (contingent upon the funding of a field test).
That the various characteristics which the College Sugges
tor proposes to incorporate within the system are important in
regulating the choice of a college has long been established in
the literature. Such general references as those of Sanford¹
and McConnell² indicate the selectivity of institutions of
higher education. Colleges with similar characteristics tend to
have similar student bodies. Conversely, similar students tend
to go to similar institutions. Heist and others³ found, for ex-
ample, that personality is associated with college choice.
Recent studies by Astin⁴ using samples of Merit Scholars indicate
that the characteristics of the college attended were an important
factor in determining attendance. Astin and Holland⁵, and Astin⁶
have used data from the National Merit Scholarship Corporation
to develop a technique for the measurement of college environments.

¹Sanford, Nevitt (ed.), The American College, New York, John Wiley
²McConnell, T. R., and others, "Higher Education", Review of
³Heist, P., McConnell, T. R., Matsler, Frank, and Williams, Phoebe,
⁴Astin, Alexander, W., "An Empirical Characterization of Higher
Education Institutions", Journal of Educational Psychology,
⁵Astin, Alexander, W., and Holland, John L., "The Environmental
Assessment Technique: A Way to Measure College Environments".
Journal of Educational Psychology, 52 (6), 1961, 308-316.
The Environmental Assessment Technique measures eight characteristics of colleges such as student body, size, average intelligence of students and additional personal variables. Such data as theirs and that of Pace, Stern, and Thistlethwaite indicate clearly the importance of the "character" of a college in determining who goes there. The differential characteristics of institutions of higher education have a potent stimulus value in controlling attendance at these institutions. For this reason, knowledge of these characteristics is of tremendous value in the selection of a "best fit" college to attend.

Several publications describing the characteristics of selected colleges and universities are currently available for use in educational guidance. These guides include:

Burckel, The College Blue Book
Miller and Brown, National Directory of Schools and Vocations
Gleazer, American Junior Colleges

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College Entrance Examination Board, *The College Handbook*

Lovejoy, *College Guide*

Educational Research Corporation, *College Admissions Data Services*


One of the typical characteristics of these publications is the fact that they permit the recovery of only a small number of characteristics associated with American colleges and universities. The recovery of these characteristics usually involves the perusal of data associated with individual institutions, primarily through the use of cross-index systems. In no instance do these types of data-retrieval systems permit the identification of colleges and universities having large multiple combinations of characteristics, except as each individual characteristic can be identified through the index system.

The College Suggestor has at least two primary advantages not shared by the college information system listed above.

The College Suggestor:

1. Permits the systematic classification of relevant characteristics of American colleges and universities in a number not heretofore possible in a simplified data retrieval system.

2. Permits these large numbers of relevant characteristics to be classified in a system which potentially allows for the expeditious recovery of both single and multiple characteristics together with the names of colleges and universities having these characteristics. In addition, the College Suggestor represents a superior compromise between parsimony of effort in the recovery of data and the amount of data available for recovery.
The optical coincidence principle has a number of operating applications for data storage and retrieval in government, science, and industry. None are known yet to be operable in education, however, although there are several applications in process of development. Relative to information storage and retrieval, Shiff and Negus\textsuperscript{10} have reported on the recently developed concept of inverted filing, a way of compacting information in manual or machine storage for ease of retrieval. Stern\textsuperscript{11} of the National Bureau of Standards, has reported on the optical coincidence principle (which may be applied either to erect or inverted files) and its applicability to information retrieval problems in the physical and biological sciences, problems which are akin to those dealt with here.\textsuperscript{12} Stern with Wildback also have reviewed patents issued and pending


related to the optical coincidence search mechanism, having traced the first application of optical coincidence to a classification of birds in 1915, subsequent applications to mineral classification (1920), personnel records (1923 in France), patent files (1947 in England), etc.

More recently, Marshall\(^{13}\) has filed application for patents by which it becomes technically feasible to manufacture optical coincidence cards in great quantity at very low cost, once a master card for each term or characteristic has been completed. Thus, a master card is prepared to identify a given term (i.e. college characteristic) and to indicate the presence of that term in each of the sources (i.e. colleges) in the universe by placing a hole in the card at the coordinate position on the card dedicated to that source. With this done, the information stored in the card can be reproduced in quantity with high speed, low cost and great durability.

The inventions involved employ the specialized capabilities in the graphic arts of printing with ink on plastics using high-speed and precision-registered printing presses such as those used by the Army Map Service. Where typical optical coincidence requires the drilling or punching of holes, the present technique creates the

the "holes" through the absence of ink at dedicated "hole" positions and the presence of ink in the surround areas.

It is the amalgamation of three areas of research and development within the larger area of information storage and retrieval which makes the College Suggestor a noteworthy development: inverted filing, optical coincidence and mass production of optical coincidence cards.

The highest degree of sophistication in optical coincidence systems has been achieved at the National Bureau of Standards. A multidimensional classification of measurement terms has been developed; retrieval-reference terms have been drawn from a dictionary and structured into a file. Thirty-six thousand scientific and technical documents and articles have been encoded into holes within this file, the file having some 2,000 term cards. As would be the case in any application of this system, the presence of a given term or subject within the given reference leads to the placement of a hole in the term card identifying by coordinate the reference cited.

To use the system, a scientist selects the terms from the dictionary having terms which define the areas he wishes to search. Term cards are pulled from file and squared on a light box. Holes through which light shows are "addressed" by moving axis and y axis indicators to an intersection at the hole. The four-digit number identifying the reference encoded at that hole position is
read as an x-y coordinate, thus bringing the document identified or a 3" x 5" card annotation of the document on microfilm within immediate reach.

The Air Force Systems Command has a "random access source selection deck" of optical coincidence cards in a system which classifies potential contractors according to their technical competences. Each area of competence is identified on a card, and those potential contractors who have identified themselves as competent to work in the area are encoded as appropriate on the cards in the system. Twelve Air Force facilities use this system in order readily to identify potential contractors who might be asked to submit bids for specific research and development tasks.

There are retrieval systems built on optical coincidence in the diverse applications of analytical chemistry, biology, medicine, textiles, plastics, personnel administration and law.

Professor James Finn at the University of Southern California plans to build an optical coincidence data retrieval system for the cataloging of technological innovations and new media in education, this under an Office of Education grant. For details on this project reference should be made to Staff Paper No. 2 in the Instructional Technology and Media Project authored by B. M. Bolvin and J. D. Finn, dated, June, 1964.

An Advisory Committee was appointed and convened during the latter stages of the development of the College Suggestor to examine the device and the possible uses and misuses which it might have within
the educational community. Membership for this Committee is given at Appendix 1.

The Advisory Committee for the College Suggestor met at Northwestern University on February 28 and March 1, 1966. Table 3 presents the agenda indicating the order of business for these two days. After greetings from Dean B. H. Chandler of the School of Education, the Committee selected as chairman Dr. George C. Giles, Jr., of the Department of Education, Congress Circle Campus, University of Illinois, Chicago.

Dr. Mathis, the principal investigator of the project, opened the discussion by presenting the background leading to the Office of Education funding. He stated that the Office of Education had initiated discussions with Educational Testing Service and Northwestern University concerning the College Suggestor, so that the project itself was essentially an invitational undertaking.

Publicity for the project was discussed with particular reference to the releases in the Wall Street Journal and the Christian Science Monitor. Several inaccuracies were corrected. The publicity release from the Northwestern University Department of Public Relations appears at Appendix 5. Examples of publicity appear at Appendix 6. Dr. Mathis pointed out that the interests of the Educational Testing Service and of Northwestern University were clearly oriented toward the research and development necessary for the production of a prototype model. Questions relating to
-- TABLE III --

THE SCHOOL OF EDUCATION
Northwestern University

National Committee Advisory to the College Suggestor Project

Monday, February 28, 1966
2 p.m.

AGENDA

1. Greetings
   Dean B. J. Chandler

2. Selection of Chairman
   Dean B. J. Chandler

3. Overview of the Project
   Dr. B. Claude Mathis

4. A Discussion of the Data Going Into the College Suggestor
   Mrs. Betty D. White

5. A First Effort to Incorporate College Environment Information in the College Suggestor
   Mr. J. Robert Cleary

6. Technical Considerations in the College Suggestor System
   Mr. Roger Marshall

7. Issues on Which Counsel is Needed
   Dr. B. Claude Mathis
   Dr. Wesley W. Walton

* * * * * *

Tuesday, March 1, 1966
5 a.m.

AGENDA

1. Announcement and Project Refresher
   Chairman

2. Review Plans for Field Test
   Dr. B. Claude Mathis
   Dr. Wesley W. Walton

3. Discussion, Clarification and at Least Partial Resolution of Issues
   Chairman

   ** 12:00 - Lunch Orrington Hotel, **

4. Final Discussion (1:30 - 3:00)
marketing and distribution will need to be answered by the Office of Education through procedures which it will need to define. In reviewing the College Suggestor, Dr. Mathis indicated that the device is intended only as a supplement to other aids presently used in the college selection process. The device provides a method of rapid identification and screening of colleges which a student may judge desirable for attendance. The student would use the information from the College Suggestor to guide him toward other sources such as college guides and catalogs. The device could be used in a counseling situation; independently by the student; or by the student with his parents. Additionally, the College Suggestor has a potential use in training programs for high school counselors.

Dr. Wesley W. Walton of the Educational Testing Service described the design of the device. He indicated the manner in which the printing was done on the plastic sheets; the optical coincidence technique, which employs use of the overlay of plastic sheets, and the possibilities for future refinements of the device.

Several questions were asked concerning the type of data going into the College Suggestor. Dr. Flat was particularly concerned that the type of information appeared to emphasize questions which a middle class population might ask about colleges. He indicated that he felt it would be necessary at some point to consider the special point of view which the culturally and economically disadvantaged youth holds toward college. Many of the questions
which these users have about college attendance would not be the questions important to a person who is economically advantaged. Dr. Walton discussed the possibility of adapting the system to the needs of the culturally and economically disadvantaged by including additional information for this type of consumer. He stressed the ease with which the College Suggestor could be modified for different audiences by the inclusion of various types of information.

Dr. Pace indicated that the size of the university may be a factor in the accuracy of the characteristics contained in the College Suggestor. He remarked that the 217 characteristics proposed may reflect a more accurate representation of the smaller liberal arts college than of the university. An examination of the list of colleges not responding to the questionnaire indicate that community colleges and junior colleges were the most frequent non-responders. Dr. Pace suggested that some attention be given to a check of the validity of the information given in the questionnaire. Mrs. White pointed out that some difficulty in filling out the questionnaire was reported by a few Admissions Officers in large universities. One question raised for consideration was whether the number of characteristics solicited from colleges and universities were actually the number needed to make the College Suggestor an effective device. Perhaps fewer characteristics would be equally effective.

Dr. Mathis indicated that a field test is urgently needed to determine what characteristics are most frequently used by the
college bound student seeking information from the College Suggestor.

Mr. Cooper discussed some of the problems which might be encountered in the use of the device in a counseling setting in a high school. He indicated that high school counselors do not always have the best materials available to them. He felt that the College Suggestor could be both good and bad for the college advisement situation, depending upon the use made of it by the counselors.

Dr. Hummel suggested that school counselors are really at the mercy of the information available to them. It would be of tremendous importance to indicate to the counselor the limitations of the College Suggestor, so that the counselor does not impute to it a power it does not possess.

Dr. Mathis discussed the proposed field test. He indicated that the design will give as much feedback as possible for the correction of developmental errors in the College Suggestor.

Father O'Brien suggested that the image which a college has of itself would most certainly influence the information which a college gives in a questionnaire. The College Suggestor should include more items of a qualitative nature which tend to present this type of information in some way other than through the usual statistical profiles.

Dr. Pace discussed some concern that the company marketing the College Suggestor should assume responsibility for updating and
revising the various characteristics as more information becomes available about colleges. He suggested that a whole new concept in college admission counseling could emerge from the use of the College Suggestor.

Both Dr. Walton and Dr. Mathis expressed concern over the marketing of the College Suggestor without adequate field testing. They feel that the Educational Testing Service and Northwestern University have a commitment to solicit the advice of the Advisory Committee and to recommend to the Office of Education marketing guidelines based on this advice.

Dr. Pace stated that the device should be useful to many people. It is a way of reducing a great deal of information into usable units. One advantage is that it identifies for the student and counselor those institutions which may not have previously been considered. The College Suggestor should suggest to the student and parent much more than the counselor could do alone. The College Suggestor could help a poor counselor more than a good one. In addition the College Suggestor should be a valuable research tool for the person who needs to identify sample populations consisting of schools with similar multiple characteristics.

Table 4 presents some questions which guided portions of Committee discussion.

During the two day meeting of the Committee the following statements were formally and unanimously approved as indicative of
TABLE IV - NATIONAL ADVISORY COMMITTEE

The College Suggestor
March 1, 1966

ISSUES FOR DISCUSSION

1. Does it seem to you that the College Suggestor addresses itself to a present and significant need in higher education? If so, could the need be served more effectively through some other means?

2. Does pushing forward with the project seem to you to be justified? If so, on what grounds? If not, are there alternative explorations which should be made as to the organization of information in higher education? Or present schemes with which it should be merged?

3. What is your estimate as to the amount of information the College Suggestor might convey to the school counselor? Could all the information be used in a positive way? Might some of it be used in a negative way? What safeguards could be instituted to minimize the latter?

4. What additional classifications of information and categories within classifications have you to suggest? Are there classifications or categories of information in the prototype to which you would care to raise objections? Are there some whose inclusion you would care to commend?

5. Are there research needs in higher education which could be satisfied via the College Suggestor system? What are these? How could the system be of most help as a tool for educational research?

6. Assuming an on-going College Suggestor system, would biennial "updating" of the bulk of the information be adequate? What data would require more frequent updating?

7. How could information for the system best be gathered? Could more than this project's needs be satisfied in the gathering of information for incorporation in future versions of the device? Are there organizations which might be willing to cooperate in the multi-purpose collection of higher education information?

8. How open can a college profile be? How open need a college profile be? How can this project accelerate acceptance on the part of the several colleges to compile and to permit publication
9. How might the project best take cognizance of objections to the system "audibly" voiced by the education community? How can it be made sensitive to objections which are ordinarily "inaudible?"

10. To how much of a field test should the system be exposed prior to its limited or its widespread distribution? Toward what kinds of objectives should a field test for a device of this type be pointed?
Committee reaction to, and concern for, the College Suggestor:

The Committee wishes to express its concern relative to the inclusion of the College Suggestor in the public domain without adequate controls to insure its valid and reliable use within the educational community. The Committee recommends to the Office of Education that some form of licensing agreement be entered into for the distribution of the College Suggestor and that this licensing agreement involve the direct participation of a representative group from the educational community, chartered for the purpose of establishing policies with respect to distribution, use, marketing and revision of the device.

The Committee feels that developments in the College Suggestor project to date are most commendable; however, the project is of sufficient importance to make further development mandatory. A field test and evaluation are imperative to the use of the College Suggestor.

The College Suggestor device will be a significantly instructive tool when used by and for students as they construct their educational plans for study beyond high school. For this reason, models of the device should be tested in counselor-counselee situations and in counselor-independent situations to determine the nature and extent of use by students and counselors in connection with the college selection planning process, and the extent of change attributable to the use of the device.

The prime objective of a field test is to evaluate the effectiveness of the College Suggestor inside and outside the counseling situation as an aid for broadening the vistas of high school students concerning their future educational opportunities.
Of major interest is the extent to which use of College Suggestor will influence college choice practices among high school students. It is of especial interest to measure the use by a variety of students in counseling situations presented both in urban and non-urban school systems. Among the questions for which answers are sought are the following:

Will a greater number of college characteristics be considered by students as they narrow college choices?

Will a greater number of colleges be considered by students as they settle on those to which they will apply?

Will students learn in more depth what the colleges suggested to students are like?

Will the geographical radii to colleges under consideration by students increase through use of the device?

In what other respect are changes in college choice practices observed to be a function of College Suggestor availability and use?

To what extent will students attempt to learn more about colleges between scheduled sessions with the counselor or independent of counselor?

To what extent are students' educational plans made more explicit, detailed and insightful?

Can the device be used effectively in group guidance activities designed to encourage planning to take advantage of educational opportunities beyond the high school?

By College Suggestor browsing can the individual student derive sufficient insight concerning colleges related to his interests to go to subsequent steps in college guides, handbooks and catalogues?

The secondary objective is to identify from field experience with the College Suggestor the modifications in content, configuration and operating characteristics to be incorporated as improvements.
to the device. Before the U. S. Office of Education authorizes manufacture and marketing the device, it will be necessary to make improvements which are found to be necessary as a result of field experience with it. Improvements are contemplated in content, with respect both to the college characteristics and universe of the colleges for which characteristics are shown. A second kind of improvement is expected in design specifications of the equipment. Finally, refinements should be identified as to ways in which the device is operated and as to the instructions issued for its operation. Among questions to be answered are the following:

What college characteristics need to be added to the College Suggestor? Which ones discarded?

Of the college characteristics included in the device, how should the differentiating information be structured to reflect the way information about colleges is found to be most usefully displayed?

Are colleges willing to have their characteristics encoded into the system and able to provide the information?

What improvements can be made in the design of the college characteristics card? How can it be made to operate more easily?

What changes can be made in the design of the deck of cards making up the system? How can the cards be more easily refilled?

How can the packaging be improved? What kind of template is needed for squaring the deck of cards? What kind of light box should be recommended?

How can operating characteristics be improved? What improvements are needed in instructions issued in connection with the operation of the system? What needed accessory materials have not been provided?
The experiences of Northwestern University, and the Educational Testing Service, together with the advice and counsel of the National Advisory Committee, relative to the development of the prototype of the College Suggestor strongly support the following recommendations concerning the future of the device:

1. That authorization for the manufacture of not more than 500 sets of the prototype model of the College Suggestor be issued at the very earliest practicable date and that funds be allocated for the purpose.

2. That subsequent authorization be issued for a field test to involve experimental use of the prototype models and that funds in part to support these research and development efforts be allocated for the purpose.

3. That the Office of Education give serious consideration to a provision for licensing this device in connection with its commercial distribution, and that it evolve a means for enforcing desirable controls through a representative group of educators chartered especially for this purpose.

4. Finally, That the Office of Education sensitize itself to the possible commercial exploitation of the College Suggestor and to the special need for protecting the potential users of the device from undesirable effects of actions based on considerations other than those taken in the best interest of the educational community.
APPENDIX I.

Advisory Committee for the College Suggestor

February 28, March 1, 1966

Dr. B. Claude Mathis

- Project Director

Mr. Ted Cooper  College Counselor, Denver Public Schools
Dr. George C. Giles, Jr.  Division of Education, University of Illinois, Chicago Circle Campus
Dr. Roland J. Hinz  Director of Admissions, Northwestern University
Dr. Dean L. Humm  Chairman of Guidance, Counseling, and Student Personnel, Ohio University
Dr. Richard McKee  Acting Director, Research, Ball State University
Reverend Theodosus J. O'Brien, O. Carm.  Principal, Mt. Carmel High School, Chicago
Dr. C. Robert Pace  Professor of Higher Education, University of California, Los Angeles
Dr. Blanche Paulson  Director, Bureau of Pupil Personnel Services, Chicago Board of Education
Dr. Richard L. Plaut  President, National Scholarship Service and Fund for Negro Students, New York
Dr. John A. Schmitt  Director, Office of Testing Services, Boston College

EDUCATIONAL TESTING SERVICE

Dr. Wesley W. Walton  Director, Developmental Programs & Services
Mrs. Nettie D. White  Professional Associate, Midwest Office
Mr. J. Robert Cleary  Director, Advisory Services, Midwest Office
Mr. Roger Marshall  Consultant to Educational Testing Service
Questionnaire to collect information for the

COLLEGE SUGGESTOR

DIRECTIONS

The purpose of this questionnaire is to assemble descriptive information about the 2,160 junior colleges, colleges and universities in the United States. The information will be processed into the COLLEGE SUGGESTOR, an information retrieval system, for use by the schools as an aid to counselors and their students. Through its use, they will be able to learn more about colleges to help them make realistic plans for education beyond high school.

Completion and return of this questionnaire, then, is particularly important. The information supplied will make possible a highly useful and much needed guidance tool. From your return, a description of your college will be stored in an information system of some four hundred thousand descriptive statements concerning American junior colleges, colleges and universities. Failure to respond to a certain item will make it appear in the system as though your institution lacks that particular characteristic, and thus, you may be eliminated from the consideration of many prospective students.

With the Admissions Officer's copy of this form will be found a manifold upon which a series of descriptive statements concerning your institution have been listed. These have been drawn into the information system from public files and are scheduled for inclusion in their present form as part of the first edition of the COLLEGE SUGGESTOR device. We are asking that you review these statements and send us comments along with the completed questionnaire. If you discover that your tuition and fees and total costs are missing, please add these figures to the bottom of the questionnaire.

The research reported herein is under the direction of Northwestern University with the cooperation and technical support of the Educational Testing Service.

We are asking that the Admissions Officer assume responsibility for preparing the questionnaire. Please answer all questions in the sections that are applicable for your institution. A check mark in the space provided before the appropriate alternative will usually be sufficient. Information descriptive of your student body should be related to the incoming class of 1964. Other responses should represent the situation that will pertain to the academic year 1965-66.

Your cooperation will be very much appreciated. Reports of progress concerning the development of the COLLEGE SUGGESTOR will be released at regular intervals.

After completing the instrument, place it, together with comments as may be appropriate, in the prepaid envelope provided, and mail it to:

Educational Testing Service
610 Church Street
Evanston, Illinois 60201

B. Claude Mathis, Ph.D.
Professor of Education and Psychology
Northwestern University
Principal Investigator
ALL INSTITUTIONS SHOULD ANSWER THE FOLLOWING QUESTIONS

1. Which of the following population categories best describes the location of your institution?
   (1) Town of less than 10,000
   (2) City or town of 10,000 to 49,999
   (3) City, not a suburb, 50,000 to 499,999
   (4) City, not a suburb, 500,000 and over
   (5) Suburb of metropolitan area of 100,000 and over

In answering questions 2 through 8 on admission requirements, please indicate those presently used in admission procedures and not necessarily those listed in the catalog.

2. What number of secondary school units are required for admission?
   (1) Less than 12
   (2) 12-14
   (3) 15 or more
   (4) Unspecified number

3. Is admission based on specific courses taken in secondary school?
   (1) Yes
   (2) No

4. How many years of English are required for admission?
   (1) Less than 3 years
   (2) 3 years
   (3) 4 years
   (4) Unspecified

5. Are at least 2 years of college preparatory mathematics required for admission?
   (1) Yes
   (2) No

6. Is at least one year of a laboratory science required for admission?
   (1) Yes
   (2) No

7. How many years of a foreign language are required for admission?
   (1) Less than 2 years
   (2) At least 2 years
   (3) No foreign language required

8. What is the recommended date for receiving admission applications?
   (1) Between September and February 1
   (2) Between September and April 1
   (3) Between September and July 31
   (4) No recommended date or other than above

9. Are admissions made on a rolling basis? (i.e., qualified applicants tendered admission as they apply)
   (1) Yes
   (2) No

10. Is early admission granted? (i.e., unusually qualified students admitted to freshmen class before completion of secondary school program)
    (1) Yes
    (2) No

11. Are early decisions made in the case of well-qualified applicants?
    (1) Yes
    (2) No

12. Check the percent of qualified applicants you offered admission in the academic year 1964-65.
    (1) Less than 10%
    (2) 10%-19%
    (3) 20%-29%
    (4) 30%-39%
    (5) 40%-49%
    (6) 50%-59%
    (7) 60% and over
13. Check the percent of all applicants you offered admission in the academic year 1964-65.

(1) Less than 10%
(2) 10%-19%
(3) 20%-29%
(4) 30%-39%
(5) 40%-49%
(6) 50%-59%
(7) 60% and over

14. Is an admission test required for entrance? (Include any tests, whether institutional, CEEB, ACT or other)

(1) Yes (2) No

15. Will you consider non-high school graduates?

(1) Yes (2) No

16. Will you consider applicants from the lower half of a graduating class under certain circumstances?

(1) Yes (2) No

17. Do you admit freshmen other than in the fall?

(1) Yes (2) No

18. Do you admit transfers other than in the fall?

(1) Yes (2) No

19. Is a summer trial session available for applicants who are promising but have some form of deficiency?

(1) Yes (2) No

20. Check all levels at which you will ordinarily accept transfers.

(1) Freshman
(2) Sophomore
(3) Junior
(4) Senior
(5) Will not accept transfers

21. Which of the following categories indicates the annual average undergraduate student financial aid award given by the institution? (Include single and packaged aids and divide by number of students actually receiving aid)

(1) $100-$499
(2) $500-$999
(3) $1,000-$1,499
(4) $1,500 and over

22. Which of the following proportions best approximates the number of freshmen receiving financial aid from your institution? (Include single and packaged aids)

(1) Less than 1/4
(2) 1/4 to 1/2
(3) 1/2 to 3/4
(4) 3/4 or more

23. Do you have a guaranteed tuition base (i.e., tuition remains stable during normal stay of student)

(1) Yes (2) No
24. Is there satisfactory opportunity for off-campus employment near-by?

___ (1) Yes ___ (2) No

25. Are the average earnings of undergraduate students' campus jobs $300 or more per year?

___ (1) Yes ___ (2) No

26. Is a work-study program available?

___ (1) Yes ___ (2) No

27. Is advanced placement given for college level work completed in secondary school?

___ (1) Yes ___ (2) No

28. Is college credit given for college level work completed in secondary school?

___ (1) Yes ___ (2) No

29. Is college credit and/or placement given for college level work on the basis of an examination?

___ (1) Yes ___ (2) No

30. Are formal counseling services available?

___ (1) Yes ___ (2) No

31. Is pre-admission counseling available?

___ (1) Yes ___ (2) No

32. Are independent study courses available?

___ (1) Yes ___ (2) No

33. Are departmental honor programs available?

___ (1) Yes ___ (2) No

34. Listed below are three institutional orientations. Place a "1" before the emphasis you feel best describes your undergraduate institution. Then rank the other alternatives, leaving blank any that do not pertain to your institution at all.

(1) Here the interest is mainly in giving the student a basic liberal arts education stressing a curiosity about new knowledge and ideas and help in self-understanding. Abstract and theoretical ideas are emphasized

(2) This is the scientific-minded institute with excellent laboratory facilities and an interest in research. The students are on their own to take advantage of such facilities. There may be a good deal of competitiveness here

(3) Here occupational training is stressed. While academic experiences are provided, applied and practical matters are stressed in contrast to the theoretical. Students are usually committed to some particular field and have come for training in that area

35. Check how many of your full-time faculty have earned degrees at the Ph.D. level or its equivalent.

___ (1) Less than 1/4

___ (2) Between 1/4 and 1/2

___ (3) Between 1/2 and 3/4

___ (4) 3/4 or over

36. Check how many of your full-time faculty have earned degrees beyond the baccalaureate.

___ (1) Less than 1/4

___ (2) Between 1/4 and 1/2

___ (3) Between 1/2 and 3/4

___ (4) 3/4 or over
37. What is the percent of your 1964-65 freshman class that graduated in the top fifth of their respective secondary school class?
   (1) Under 20%
   (2) 20%-39%
   (3) 40%-59%
   (4) 60% or more

38. The CEEB SAT Verbal mean score for your 1964-65 entering class was in the following range:
   (1) Under 400
   (2) 400-499
   (3) 500-599
   (4) 600-649
   (5) 650 and over
   (6) Does not apply

39. The CEEB SAT Mathematical mean score for your 1964-65 entering class was in the following range:
   (1) Under 400
   (2) 400-499
   (3) 500-599
   (4) 600-649
   (5) 650 and over
   (6) Does not apply

40. The ACT mean composite score for your 1964-65 entering class was in the following range:
   (1) Under 12
   (2) 12-15
   (3) 16-21
   (4) 22-25
   (5) 26 or over
   (6) Does not apply

41. Estimate below the percent of your 1963-64 entering class that returned during the academic year 1964-65.
   (1) Less than 50%
   (2) 50%-59%
   (3) 60%-69%
   (4) 70%-79%
   (5) 80%-89%
   (6) 90% and over

42. Check the residential facilities available.
   (1) Almost all residential facilities are on campus
   (2) Almost all residential facilities are off campus
   (3) Fraternities have housing facilities
   (4) Sororities have housing facilities
   (5) Facilities for women only
   (6) Facilities for men only
   (7) No residential facilities available

43. Estimate the percent of your student body that belongs to social fraternities/sororities.
   (1) Under 10%
   (2) 10%-19%
   (3) 20%-29%
   (4) 30%-39%
   (5) 40%-49%
   (6) 50% or over
   (7) Does not apply
44. Which of the following best describes the manner in which your undergraduate students engage in the various activities of campus life at your institution?

(1) Academic achievement and pursuit of knowledge for its own sake are the preoccupation of students here. Social and institutional activities are informal and students tend to pursue these informally and individually.

(2) Although students are fully engaged in the academic side of campus life here, the importance of extra-curricular activities is well recognized, formally organized, and viewed by most students as important parts of their development.

(3) "Togetherness" typifies this campus. Students and faculty work closely together in all phases of campus life. Students show concern for social responsibility and social action.

(4) Students stress the importance of establishing interpersonal relationships on campus and of working within the "system" to attain a degree of status. Student leadership and school spirit are quite evident.

45. Do more than 1/2 of your full time students commute?

(1) Yes (2) No

46. Do you seek a geographically diverse student body?

(1) Yes (2) No

47. Are cultural activities (plays, concerts, art exhibits, etc.) readily available for students by frequent public transportation?

(1) Yes (2) No

48. Are cultural activities (plays, concerts, art exhibits, etc.) centered mainly on campus?

(1) Yes (2) No

49. Check to show whether you offer certification programs in the following fields, even if you do not offer a major in education.

(1) Elementary education

(2) Secondary education

(3) Neither elementary nor secondary education

50. Is ROTC required?

(1) Yes (2) No

51. Check the ROTC programs that are available.

(1) Army

(2) Navy

(3) Air Force

(4) None

52. May a student complete all baccalaureate degree requirements in less than 4 calendar years?

(1) Yes (2) No

53. Do you have a formal program available for study abroad?

(1) Yes (2) No
54. What percent of your total enrollment are graduate students?
___(1) No graduate students
___(2) Less than 10%
___(3) 10%-19%
___(4) 20%-29%
___(5) 30%-39%
___(6) 40%-49%
___(7) 50% or more

55. How many women graduates go on to graduate or professional study?
___(1) Less than 1/4
___(2) Between 1/4 and 1/2
___(3) 1/2 or more
___(4) Does not apply

56. How many male graduates go on to graduate or professional study?
___(1) Less than 1/4
___(2) Between 1/4 and 1/2
___(3) 1/2 or more
___(4) Does not apply

JUNIOR COLLEGES ONLY SHOULD ANSWER THE FOLLOWING TWO QUESTIONS

57. How many women graduates go on to 4-year colleges or some other type of formal education?
___(1) Less than 1/4
___(2) Between 1/4 and 1/2
___(3) 1/2 or more
___(4) Does not apply

58. How many male graduates go on to 4-year colleges or some other type of formal education?
___(1) Less than 1/4
___(2) Between 1/4 and 1/2
___(3) 1/2 or more
___(4) Does not apply
<table>
<thead>
<tr>
<th>College Suggestor Characteristics</th>
<th>Total 217</th>
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<tbody>
<tr>
<td>Location 13</td>
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<td>Location in the Far West</td>
<td>0107</td>
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<td>Located in a Survey of Metropolitan Area of 100,000 or Over</td>
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<td>Located in a City, 500,000 or Over</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Located in a City or Town of 10,000 to 50,000</td>
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</tr>
<tr>
<td>Located in a Town of Less Than 10,000</td>
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<tr>
<td>AFFILIATION OF COLLEGE WITH RELIGIOUS GROUP OTHER THAN ROMAN CATHOLIC</td>
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</tr>
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</table>

**PREREQUISITES**

| TWELVE OR MORE SECONDARY SCHOOL UNITS REQUIRED | Q2(2+3) 0400 |
| FIFTEEN OR MORE SECONDARY SCHOOL UNITS REQUIRED | Q2(3) 0401 |
| ACADEMIC COURSE OF STUDY IN SECONDARY SCHOOL NOT SPECIFIED | Q3.2 0402 |
| PREREQUISITE OF FOUR YEARS ENGLISH | Q4.3 0403 |
| PREREQUISITE OF THREE YEARS OF ENGLISH | Q4.2 0404 |
| PREREQUISITE OF AT LEAST TWO YEARS FOREIGN LANGUAGE | Q7.2 0405 |
| NO FOREIGN LANGUAGE PREREQUISITE | Q7.3 0406 |
| PREREQUISITE OF AT LEAST TWO YEARS MATHEMATICS | Q5.1 0407 |
| PREREQUISITE OF AT LEAST ONE YEAR LABORATORY SCIENCE | Q6.1 0408 |

**ADMISSION INFORMATION**

| AN ADMISSIONS TEST IS REQUIRED | Q14.1 0500 |
| OVER SIXTY PERCENT OF QUALIFIED APPLICANTS WERE OFFERED ADMISSION IN RECENT YEAR | Q12(7) 0501 |
| OVER SIXTY PERCENT OF ALL APPLICANTS WERE OFFERED ADMISSION IN RECENT YEAR | Q13(7) 0502 |
| ADMISSIONS DECISIONS MADE ON ROLLING BASIS | Q9.1 0503 |
| EARLY ADMISSION GRANTED WHEN APPROPRIATE | Q10.1 0504 |
EARLY DECISIONS MADE IN APPROPRIATE CASES
FRESHMEN ADMITTED OTHER THAN IN THE FALL
TRANSFERS ADMITTED OTHER THAN IN THE FALL
WILL CONSIDER APPLICANTS FROM LOWER HALF OF GRADUATING CLASS UNDER CERTAIN CIRCUMSTANCES
WILL CONSIDER NON-HIGH SCHOOL GRADUATES WHERE CIRCUMSTANCES WARRANT
SUMMER TRIAL SESSION AVAILABLE FOR PROMISING APPLICANTS
ADMISSION APPLICATIONS RECEIVED PRIOR TO FEBRUARY
ADMISSION APPLICATIONS RECEIVED PRIOR TO APRIL
ADMISSION APPLICATIONS RECEIVED THROUGH JULY

TUITION AND FEES FOR OUT OF STATE STUDENTS UNDER $500
TUITION AND FEES FOR IN STATE STUDENTS UNDER $500
TUITION AND FEES UNDER $600
TUITION AND FEES UNDER $800
TUITION AND FEES UNDER $1,000
TUITION AND FEES UNDER $1,200
TUITION AND FEES UNDER $1,500
TUITION AND FEES OVER $1,500
TUITION, FEES, ROOM AND BOARD UNDER $1,100
TUITION, FEES, ROOM AND BOARD UNDER $1,600
TUITION, FEES, ROOM AND BOARD UNDER $2,100

COSTS 14
<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>Tuition, fees, room and board under $2,600</td>
<td>0611</td>
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<tr>
<td>Tuition, fees, room and board under $3,100</td>
<td>0612</td>
</tr>
<tr>
<td>Tuition, fees, room and board over $3,100</td>
<td>0613</td>
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<tr>
<td>Offers four-year guaranteed tuition base</td>
<td>027.10</td>
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<tr>
<td>Institution has college work-study program</td>
<td>026.1</td>
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<tr>
<td>Adequate opportunity available for off-campus employment</td>
<td>024.1</td>
</tr>
<tr>
<td>Average earnings for undergraduate jobs $300 or more per year</td>
<td>025.1</td>
</tr>
<tr>
<td>More than half the freshman class has been receiving financial aid in recent years</td>
<td>022(3+4)</td>
</tr>
<tr>
<td>More than one fourth the freshman class has been receiving financial aid in recent years</td>
<td>022(3+4)</td>
</tr>
<tr>
<td>Less than one quarter the freshman class has been receiving financial aid in recent years</td>
<td>022(3+4)</td>
</tr>
<tr>
<td>Average student award, including single and packaged aids, has recently run $200 to $499</td>
<td>021.1</td>
</tr>
<tr>
<td>Average student award, including single and packaged aids, has recently run $500 to $999</td>
<td>021.2</td>
</tr>
<tr>
<td>Average student award, including single and packaged aids, has recently exceeded $1,000 per year</td>
<td>021(3+4)</td>
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<tr>
<td>Type of academic program: University</td>
<td>0800</td>
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<tr>
<td>Type of academic program: Liberal Arts College</td>
<td>0801</td>
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<tr>
<td>Type of academic program: Fine Arts College</td>
<td>0802</td>
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<tr>
<td>Type of academic program: Technological College</td>
<td>0803</td>
</tr>
<tr>
<td>Type of academic program: Theological or Religious College</td>
<td>0804</td>
</tr>
<tr>
<td>Type of academic program: Teachers College &amp; Liberal Arts and Teacher Education</td>
<td>0805</td>
</tr>
<tr>
<td>Type of academic program: Junior College</td>
<td>0806</td>
</tr>
<tr>
<td>TYPE OF ACADEMIC PROGRAM: SUB-BACCALAUREATE TECHNICAL AND PROFESSIONAL</td>
<td>8007</td>
</tr>
<tr>
<td>CERTIFICATION PROGRAM OFFERED IN SECONDARY EDUCATION</td>
<td>8008</td>
</tr>
<tr>
<td>CERTIFICATION PROGRAM OFFERED IN ELEMENTARY EDUCATION</td>
<td>8009</td>
</tr>
<tr>
<td>ROTC REQUIRED</td>
<td>8010</td>
</tr>
<tr>
<td>AIR FORCE RESERVE OFFICER TRAINING CORPS PROGRAM AVAILABLE</td>
<td>8011</td>
</tr>
<tr>
<td>ARMY RESERVE OFFICER TRAINING CORPS PROGRAM AVAILABLE</td>
<td>8012</td>
</tr>
<tr>
<td>NAVY RESERVE OFFICER TRAINING CORPS PROGRAM AVAILABLE</td>
<td>8013</td>
</tr>
<tr>
<td>FORMAL COUNSELING SERVICES AVAILABLE &quot;OR UNDERGRADUATES</td>
<td>8014</td>
</tr>
<tr>
<td>DEPARTMENTAL HONORS PROGRAMS AVAILABLE</td>
<td>8015</td>
</tr>
<tr>
<td>ADVANCED PLACEMENT GIVEN FOR COLLEGE LEVEL WORK COMPLETED IN SECONDARY SCHOOL</td>
<td>8016</td>
</tr>
<tr>
<td>COLLEGE CREDIT GIVEN FOR COLLEGE LEVEL WORK COMPLETED IN SECONDARY SCHOOL</td>
<td>8017</td>
</tr>
<tr>
<td>COLLEGE CREDIT AND/OR ADVANCED PLACEMENT GIVEN FOR COLLEGE LEVEL WORK ON BASIS OF AN EXAMINATION</td>
<td>8018</td>
</tr>
<tr>
<td>INDEPENDENT STUDY COURSES AVAILABLE</td>
<td>8019</td>
</tr>
<tr>
<td>FORMAL PROGRAM AVAILABLE FOR STUDY ABROAD</td>
<td>8020</td>
</tr>
<tr>
<td>BACCALAUREATE REQUIREMENT MAY BE MET IN LESS THAN FOUR YEARS</td>
<td>8021</td>
</tr>
<tr>
<td>CAMPUS ORIENTATION INCLUDES TOWARD LIBERAL ARTS EMPHASIS</td>
<td>8022</td>
</tr>
<tr>
<td>CAMPUS ORIENTATION INCLUDES TOWARD TECHNICAL/SCIENTIFIC EMPHASIS</td>
<td>8023</td>
</tr>
<tr>
<td>CAMPUS ORIENTATION INCLUDES TOWARD OCCUPATIONAL/PRE PROFESSIONAL EMPHASIS</td>
<td>8024</td>
</tr>
<tr>
<td>CULTURAL ACTIVITIES (CONCERTS, PLAYS, ART EXHIBITS, ETC.) FREQUENTLY AVAILABLE BY FREQUENT PUBLIC TRANSPORTATION</td>
<td>8025</td>
</tr>
<tr>
<td>CULTURAL ACTIVITIES (CONCERTS, PLAYS, ART EXHIBITS, ETC.) CENTER MAINLY ON CAMPUS</td>
<td>8026</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Value</td>
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<tr>
<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>Accredited by Regional Associations</td>
<td>0827</td>
</tr>
<tr>
<td>Calendar Based 'N Semester Plan</td>
<td>0828</td>
</tr>
<tr>
<td>Calendar Based on Quarter Plan</td>
<td>0830</td>
</tr>
<tr>
<td>Calendar Based on Trimester or Other Plan</td>
<td>0829</td>
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<tr>
<td>Characteristics of Student Body</td>
<td>1200</td>
</tr>
<tr>
<td>Student Body All Men</td>
<td></td>
</tr>
<tr>
<td>Student Body All Women</td>
<td>1201</td>
</tr>
<tr>
<td>Student Body Coeducational or Coordinate</td>
<td>1202</td>
</tr>
<tr>
<td>Student Orientation Inclines Toward the Scholarly &amp; Intellectual</td>
<td></td>
</tr>
<tr>
<td>Student Orientation Inclines Toward Social and Personal Development</td>
<td></td>
</tr>
<tr>
<td>Student Orientation Inclines Toward Practicality</td>
<td></td>
</tr>
<tr>
<td>Over Fifty Percent of Class Recently Enrolled Graduated in Top Fifth of Secondary School Class</td>
<td>Q37 (2+3+4) 1207</td>
</tr>
<tr>
<td>Over Twenty Percent of Class Recently Enrolled Graduated in Top Fifth of Secondary School Class</td>
<td>Q37 (2+3+4) 1208</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Verbal Section of SAT Was Over 400</td>
<td>Q35 (2+3+4+5) 1209</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Verbal Section of SAT Was Over 500</td>
<td>Q38 (3+4+5) 1210</td>
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<tr>
<td>CBEB Mean Score for Recent Freshman Class on Verbal Section of SAT Was Over 600</td>
<td>Q38 (4+5) 1211</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Verbal Section of SAT Was Over 800</td>
<td>Q38 (5) 1212</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Mathematical Section of SAT Was Over 400</td>
<td>Q39 (2+3+4+5) 1213</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Mathematical Section of SAT Was Over 500</td>
<td>Q39 (3+4+5) 1214</td>
</tr>
<tr>
<td>CBEB Mean Score for Recent Freshman Class on Mathematical Section of SAT Was Over 600</td>
<td>Q39 (4+5) 1215</td>
</tr>
<tr>
<td>Category</td>
<td>Score</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>Over mean score for recent freshman class on mathematical section of SAT</td>
<td>Over 650</td>
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<tr>
<td>ACT mean composite score for recent freshman class 12</td>
<td>Over</td>
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<tr>
<td>ACT mean composite score for recent freshman class 16 or over</td>
<td>Over</td>
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<tr>
<td>ACT mean composite score for recent freshman class 21 or over</td>
<td>Over</td>
</tr>
<tr>
<td>ACT mean composite score for recent freshman class 26 or over</td>
<td>Over</td>
</tr>
<tr>
<td>As many as one fourth of women graduates enter graduate study</td>
<td>Over</td>
</tr>
<tr>
<td>As many as one half women graduates enter graduate study</td>
<td>Over</td>
</tr>
<tr>
<td>As many as one half men graduates enter graduate study</td>
<td>Over</td>
</tr>
<tr>
<td>More than one fourth men graduates enter graduate study</td>
<td>Over</td>
</tr>
<tr>
<td>Less than twenty percent total enrollment are graduate students</td>
<td>Over</td>
</tr>
<tr>
<td>Forty percent or more belong to social fraternities or sororities</td>
<td>Over</td>
</tr>
<tr>
<td>Seeks a geographically diverse student body</td>
<td></td>
</tr>
<tr>
<td>More than one half of the student body commuting day students</td>
<td>Over</td>
</tr>
<tr>
<td>No residential facilities available</td>
<td>Over</td>
</tr>
<tr>
<td>Residential facilities on campus for women only</td>
<td>Over</td>
</tr>
<tr>
<td>Residential facilities on campus for men only</td>
<td>Over</td>
</tr>
<tr>
<td>All or almost all residential facilities are on campus</td>
<td>Over</td>
</tr>
<tr>
<td>Fraternities have housing facilities</td>
<td>Over</td>
</tr>
<tr>
<td>Sororities have housing facilities</td>
<td>Over</td>
</tr>
<tr>
<td>Over sixty per cent of a recent freshman class returned the second year</td>
<td>Over</td>
</tr>
</tbody>
</table>
OVER EIGHTY PER CENT OF A RECENT FRESHMAN CLASS RETURNED THE SECOND YEAR

HALF OR MORE MEN GRADUATES FROM THESE JUNIOR COLLEGES GO ON FOR HIGHER EDUCATION

HALF OR MORE WOMEN GRADUATES FROM THESE JUNIOR COLLEGES GO ON FOR HIGHER EDUCATION

CHARACTERISTICS OF FACULTY

MORE THAN HALF THE FACULTY MEMBERS HAVE THEIR DOCTORATES

MORE THAN ONE FOURTH THE FACULTY MEMBERS HAVE THEIR DOCTORATES

MORE THAN THREE FOURTHS THE FACULTY MEMBERS HAVE ADVANCED DEGREES

DEGREE MAJOR AVAILABLE IN 57

<table>
<thead>
<tr>
<th>AGRICULTURE: GENERAL</th>
<th>0900</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURE: AGROSCIENCE; FOOD TECHNOLOGY; HORTICULTURE; HUSBANDRY; MANAGEMENT OF FARM, DAIRY, WILDLIFE, SOILS</td>
<td>0901</td>
</tr>
<tr>
<td>ARCHITECTURE</td>
<td>0902</td>
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<tr>
<td>BIOLOGICAL SCIENCES: BIOLOGY, GENERAL</td>
<td>0903</td>
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<tr>
<td>BIOLOGICAL SCIENCES: BOTANY OR ZOOLOGY, GENERAL</td>
<td>0904</td>
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<tr>
<td>BIOLOGICAL SCIENCES: PREMEDICAL, PREDENTAL, PREVETERINARY, OPTOMETRY (PRE-PROFESSIONAL)</td>
<td>0905</td>
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<tr>
<td>BIOLOGICAL SCIENCES: ANATOMY, BACTERIOLOGY, ENTOZOOLOGY, GENETICS, NUTRITION, PHYSIOLOGY, PLANT PATHOLOGY, PLANT PHYSIOLOGY</td>
<td>0906</td>
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<tr>
<td>BIOLOGICAL SCIENCES: BIOCHEMISTRY, BIOPHYSICS</td>
<td>0907</td>
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<tr>
<td>BUSINESS AND COMMERCE: GENERAL</td>
<td>0908</td>
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<tr>
<td>BUSINESS AND COMMERCE: ACCOUNTING</td>
<td>0909</td>
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<tr>
<td>BUSINESS AND COMMERCE: HOTEL AND RESTAURANT ADMINISTRATION</td>
<td>0910</td>
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<tr>
<td>BUSINESS AND COMMERCE: SECRETARIAL STUDIES</td>
<td>0911</td>
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<tr>
<td>EDUCATION: NURSERY, KINDERGARTEN, EARLY CHILDHOOD, ELEMENTARY</td>
<td>0912</td>
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<tr>
<td>EDUCATION: SECONDARY, COMBINED ELEMENTARY &amp; SECONDARY</td>
<td>0913</td>
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</table>
EDUCATION: FINE & APPLIED ARTS (ART, BUSINESS & COMMERCE, HOME ECONOMICS, MUSIC, PHYSICAL RECREATION, HEALTH, INDUSTRIAL & INDUSTRIAL ARTS, AGRICULTURE, GENERAL) 0911

EDUCATION: EXCEPTIONAL & ATYPICAL, SPEECH CORRECTION 0915

ENGINEERING 0916

ENGLISH, LITERATURE & JOURNALISM 0917

FINE AND APPLIED ARTS: GENERAL 0918

FINE AND APPLIED ARTS: ART 0919

FINE AND APPLIED ARTS: MUSIC 0920

FINE AND APPLIED ARTS: SPEECH & DRAMATIC ARTS 0921

FOREIGN LANGUAGES: GENERAL, LINGUISTICS, PHILOLOGY 0922

FOREIGN LANGUAGES: CLASSICAL, ORIENTAL, EXOTIC (GREEK, LATIN, CHINESE, HEBREW, HINDU, JAPANESE, URDU) 0923

FOREIGN LANGUAGES: MODERN (FRENCH, GERMAN, ITALIAN, PORTUGUESE, RUSSIAN, SPANISH) 0924

FORESTRY 0925

GENERAL PROGRAM OF STUDIES: ARTS & SCIENCES 0927

GEOGRAPHY 0929

HEALTH PROFESSIONS: GENERAL, CHIROPODY, DENTAL HYGIENE, HOSPITAL ADMINISTRATION, OCCUPATIONAL THERAPY, PUBLIC HEALTH 0930

HEALTH PROFESSIONS: MEDICAL TECHNOLOGY, RADIOLOGIC TECHNOLOGY 0931

HEALTH PROFESSIONS: NURSING OR PUBLIC HEALTH NURSING 0932

HEALTH PROFESSIONS: PHARMACY 0933

HEALTH PROFESSIONS: PHYSICAL THERAPY 0934

HISTORY 0935
<p>| HOME ECONOMICS: GENERAL | 0936 |
| HOME ECONOMICS: CHILD DEVELOPMENT, CLOTHING &amp; TEXTILES, FOODS &amp; NUTRITION, INSTITUTIONAL MANAGEMENT, FAMILY RELATIONS | 0937 |
| LAW | 0938 |
| LIBRARY SCIENCE | 0939 |
| MATHEMATICAL SUBJECTS: MATHEMATICS AND STATISTICS | 0940 |
| MILITARY, NAVAL OR AIR SCIENCE; MERCHANT MARINE DECK OFFICER | 0941 |
| PHILOSOPHY, SCHOLASTIC PHILOSOPHY | 0942 |
| PHYSICAL SCIENCES: GENERAL | 0943 |
| PHYSICAL SCIENCES: CHEMISTRY, PHARMACEUTICAL CHEMISTRY | 0944 |
| PHYSICAL SCIENCES: PHYSICS | 0945 |
| PHYSICAL SCIENCES: EARTH SCIENCES (GENERAL, GEOLOGY, GEOPHYSICS, OCEANOGRAPHY) | 0946 |
| PHYSICAL SCIENCES: ASTRONOMY, METALLURGY, METEOROLOGY | 0947 |
| PSYCHOLOGY | 0948 |
| RELIGION: GENERAL &amp; LIBERAL ARTS, RELIGIOUS EDUCATION, THEOLOGY | 0949 |
| SOCIAL SCIENCES: GENERAL | 0950 |
| SOCIAL SCIENCES: AMERICAN CIVILIZATION | 0951 |
| SOCIAL SCIENCES: ANTHROPOLOGY | 0952 |
| SOCIAL SCIENCES: ECONOMICS | 0953 |
| SOCIAL SCIENCES: INTERNATIONAL RELATIONS, AREA &amp; REGIONAL STUDIES | 0954 |
| SOCIAL SCIENCES: POLITICAL SCIENCE OR GOVERNMENT | 0955 |</p>
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<tr>
<th>Occupational Programs Available in 15</th>
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<tbody>
<tr>
<td>AGRICULTURE AND FORESTRY             1000</td>
</tr>
<tr>
<td>AERONAUTICAL TECHNOLOGY              1001</td>
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<tr>
<td>CHEMICAL TECHNOLOGY                  1002</td>
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<tr>
<td>CIVIL AND ARCHITECTURAL TECHNOLOGY   1003</td>
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<tr>
<td>ELECTRICAL AND ELECTRONIC TECHNOLOGY 1004</td>
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<tr>
<td>INDUSTRIAL, MECHANICAL AND INSTRUMENTATION TECHNOLOGY 1005</td>
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<tr>
<td>HEALTH SERVICES                      16.06</td>
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<tr>
<td>SCIENTIFIC DATA PROCESSING           1007</td>
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<tr>
<td>BUSINESS AND COMMERCE                1008</td>
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<tr>
<td>EDUCATION                            1009</td>
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<tr>
<td>JOURNALISM                           1010</td>
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<tr>
<td>APPLIED, Fine AND GRAPHIC ARTS       1011</td>
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<tr>
<td>HOME ECONOMICS                       1012</td>
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<tr>
<td>LIBRARY TECHNOLOGY                   1013</td>
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<tr>
<td>BIBLE STUDY                          1014</td>
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<tr>
<td>FIRE PROTECTION AND POLICE TECHNOLOGY 1015</td>
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</table>
APPENDIX IV

Colleges Not Responding To Questionnaire

Alabama A & M College
Daniel Payne College, Alabama
Huntingdon College, Alabama
Livingston State College, Alabama
Alaska Methodist University
Agricultural, Mechanical and Normal College, Arkansas
Arkansas College
Ouachita Baptist College, Arkansas
Shorter College, Arkansas
Southern Baptist College, Arkansas
Armstrong College, California
Art Center School, California
Bakersfield College, California
California Concordia College
California Lutheran College
California Lutheran College
California Western University
Chaffey College, California
College of the Siskiyous, California
Dominican College San Rafael, California
Glendale College, California
Heald Engineering College, California
La Sierra College, California
Long Beach City College, California
Los Angeles Baptist College & Theological Seminary
Monterey Institution for Foreign Study, California
Monterey Peninsula College, California
Mount San Antonio College, California
Pacific Oaks College, California
Pomona College, California
Riverside City College, California
St. Mary's College-California
San Diego College for Women
San Jose State College, California
Shasta College, California
Whittier College, California
Regis College, Colorado
Central Conn. State College, Conn.
Danbury State College, Conn.
Mitchell College, Conn.
St. Joseph College, Conn.
Immaculata Junior College, Washington, D. C.
Central Florida Junior College, Florida
Edwards Waters College, Florida
Embry-Riddle Aeronautical Institute, Florida
Florida Junior College Florida
Johnson Junior College, Florida
Lincoln Junior College, Florida
Palm Beach Junior College, Florida
Roosevelt Junior College, Florida
Washington Junior College, Florida
Agnes Scott College, Georgia
La Grange College, Georgia
American Conservatory of Music, Illinois
Centralia Junior College, Illinois
Cosmopolitan School of Music, Illinois
Devry Technological Institute, Illinois
George Williams College, Illinois
Morton Junior College, Illinois
Mundelein College, Illinois
St. Joseph's Seminary, Illinois
Valparaiso University, Indiana
Clinton Junior College, Iowa
Emmetsburg Community College, Iowa
Fort Dodge Community College, Iowa
Keokuk Community College, Iowa
Webster City Junior College, Iowa
El Dorado Junior College, Kansas
Hutchinson Junior College, Kansas
St. Johns College, Kansas
University of Kansas
Lees Junior College, Kentucky
Midway Junior College, Kentucky
St. Catharine Junior College, Kentucky
Western Kentucky State College
Auburn Maine School of Commerce, Maine
Northern Conservatory of Music, Maine
Anne Arundel Community College, Maryland
Baltimore College of Commerce
Baltimore Junior College
Bowie State College, Maryland
Eastern College, Maryland
Frostburg State College, Maryland
New Israel Rabbinical College, Maryland
Peabody Institute of Baltimore
St. Mary's Seminary & Junior College, Maryland
University of Baltimore
University of Maryland State College
Berkshire Community College, Massachusetts
Bouve Boston School, Mass.
Bradford Durfee College of Technology, Mass.
Cambridge Junior College
Cardinal Cushing College, Mass.
Garland Junior College, Mass.
Perry Normal School, Mass.
Queen Apostles College & Seminary, Mass.
St. Columbans College & Seminary, Mass.
St. Hyacinth College and Seminary, Mass.
State College at Lowell, Mass.
Worcester Junior College
Cleary College, Michigan
Cranbrook Academy of Art, Michigan
Delta College, Michigan
Detroit Business Institute
Detroit Institute of Musical Art
Duns Scotus College, Michigan
Merrill Palmer Institute, Mich.
Western Michigan University
Ely Junior College, Minnesota
Northwestern Lutheran Theological Seminary, Minn.
Clarke Memorial College, Miss.
Copiah Lincoln Junior College, Miss.
East Mississippi Junior College
Gulf Park College, Miss.
Itawamba Junior College, Miss.
J. P. Campbell College, Miss.
Meridian Municipal Junior College, Miss.
Mississippi Indust College
Mississippi State College for Women
Natchez Junior College, Miss.
Okolona College, Miss.
Prentiss Norm Industrial Institute, Miss.
Rust College, Miss.
Saints Junior College, Miss.
Southwestern Mississippi Junior College
T J Harris Junior College, Miss.
Central Bible Institute, Mo.
Eder Theological Seminary, Mo.
Harris Teachers College, Mo.
Joplin Junior College, Mo.
Kansas City College of Osteopathy, Mo.
Mercy Junior College, Mo.
Missouri Valley College
Moberly Junior College
National College, Mo.
St. Joseph Junior College, Mo.
St. Pauls College, Mo.
Trenton Junior College, Mo.
William Woods College
Custer County Junior College, Montana
Grace Bible Institute, Neb.
Municipal University of Omaha
Don Bosco College, New Jersey
Mummouth College, N. J.
Rutgers The State University, N. J.
Shelton College, N. J.
New Mexico Highlands University, New Mexico
Biblical Seminary in New York
Colgate Rochester Divinity School, N. Y.
Concordia Junior College, N. Y.
Immaculata College, N. Y.
Iona College, N. Y.
Mannes College of Music, N. Y.
Maria College of Albany, New York
Mohawk Valley Technological Institute, N. Y.
Nazareth College of Rochester
New York Institute of Technology
St. Thomas Aquinas College, N. Y.
Sarah Lawrence College, New York
SUNY at Postsdam, New York
SUNY at Stony Brook, New York
SUNY at Buffalo
Elizabeth City State College, North Carolina
Guilford College, North Carolina
High Point College, North Carolina
Lees McRae College, N. C.
Mecklenburg College, N. C.
North Carolina College at Durham
North Carolina Wesleyan College, Inc.
Oak Ridge Military Institute, N. C.
Peace College, North Carolina
Piedmont Bible College, Inc., North Carolina
Sacred Heart Junior College and Academy, N. C.
Bismarck Junior College, North Dakota
Minot State College, North Dakota
Wilberforce University, Ohio
Northern Oklahoma Junior College
Oklahoma Christian College
Oklahoma School of Business, Accounting, Finance and Law
Poteau Community College, Oklahoma
Seminole Junior College, Oklahoma
Cascade College, Oregon
Mount Angel College, Oregon
Multnomah College, Oregon
Museum Art School, Oregon
Warner Pacific College, Oregon
Christ the Saviour Seminary, Penn.
Combs College of Music, Pa.
Del Val College of Science and Agriculture, Penn.
Kilroe Seminary Sacred Heart, Penn.
Kutztown State College, Penn.
Mary Immaculate Seminary, Penn.
Pennsylvania Military College
Philadelphia College of Osteopathy
St. Charles Borromeo Seminary, Penn.
St. Fidelis College & Seminary, Penn.
Seminary of our Lady of Prov. Rhode Island
Allen University, South Carolina
Morris College, South Carolina
North Greenville Junior College, S. C.
Freeman Junior College, South Dakota
Presentation Junior College, S. D.
Sioux Falls College, S. D.
Cumberland College of Tennessee
George Peabody College for Teachers, Tenn.
Milligan College, Tenn.
Morristown College, Tenn.
Trevecca Nazarene College, Tenn.
William J. Bryan College, Tenn.
Alvin Junior College, Texas
Blinn College, Texas
Decatur Baptist College, Texas
Kilgore College, Texas
Lubbock Christian College, Texas
McMurry College, Texas
Panola County Junior College, Texas
St. Philips College, Texas
Stephen F. Austin State College, Texas
Texas Womans University
Tyler Junior College, Texas
Latter-Day Saints Business College, Utah
Stevens Henager College, Utah
Goddard College, Vermont
Apprentice School, Virginia
Eastern Mennonite College, Virginia
Virginia Southern College
Virginia Theological Seminary and College
Highline College, Washington
Northwestern College, Washington
Pacific Lutheran University, Washington
Seattle Pacific College
University of Puget Sound, Washington
Alerson Broaddus College, West Virginia
Bluefield State College, West Virginia
Fairmont State College, West Virginia
Greenbrier College, West Virginia
Barron County Teachers College, Wisconsin
Buffalo County Teachers College, Wisconsin
Columbia County Teachers College
Door Kewaunee County Teachers College, Wis.
Edgewood College of the Sacred Heart, Wis.
Immaculate Conception College, Wis.
Juneau County Teachers College, Wis.
Langlade County Teachers College, Wis.
Marinette County Teachers College, Wis.
Milton College, Wis.
Polk County Teachers College, Wis.
Sauk County Teachers College, Wis.
Sheboygan County Teachers College, Wis.
Vernon County Teachers College, Wis.
Wisconsin Conservatory, Inc., Wis.
Western Wyoming Junior College, Wyoming
U. S. Army Language School, Calif.
Inter American University of Puerto Rico
A New and Simple Device That Will Tell a High School Counselor In a Few Minutes Which of More Than 2,000 Colleges Best Fit a Student's Needs is Being Developed at Northwestern University

Countless lifetime decisions are made by high school students and their counselors on the basis of meagre information pieced together from a few college bulletins.

Too often, this "search" leaves little time for serious discussion about basic aims and the close matching of a college's many characteristics with the needs and desires of the student. This is especially true when the student's requirements are out of the ordinary.

A simple device that will tell the counselor in a few minutes which of 2,160 universities, colleges, and junior colleges best fit the student's requirements is now being developed at Northwestern University.

Called the College Suggestor, the device is being developed by Northwestern under a $55,077 grant from the U. S. Office of Education and in cooperation with the Educational Testing Service, Princeton, N. J.

Plans call for a prototype of the College Suggestor to be completed this winter and to be tested in 1966, and for production models to be made available in 1967. The price probably will be under $50.00

Not only will the College Suggestor help to put most of the country's colleges and universities into the selection process, but it will also increase the student's choice of characteristics from the usual three or four to a possible 220.

"We see the College Suggestor as a valuable tool for collegebound students, counselors, and ultimately for research in the field of higher education," said B. Claude Mathis, professor of education and psychology and assistant dean of the Graduate School at Northwestern University.

Mathis is the principal investigator under the Office of Education grant for the College Suggestor, which will be developed in cooperation with Wesley W. Walton, director of developmental programs for the Educational Testing Service.
"By providing for much more rapid examination of data about colleges than you can obtain through the usual types of school bulletins, the College Suggestor will save valuable time which the counselor will be able to use in a close examination of the specific problems of college selection with the individual student," said Mathis.

"Our hope," he said, "is that the use of the device will also encourage counselors to examine colleges from the standpoint of multiple characteristics rather than from the usual approach of only a few. Repeated use will tend to increase the range of colleges and characteristics that the counselor is familiar with."

The College Suggestor utilizes the technique of optical coincidence, which has previously not been used for this purpose, according to Mathis.

The device consists of plastic cards the size of a sheet of typing paper. Each card represents a single characteristic or category such as "tuition under $1,000." All 2,160 colleges are represented on each card.

When a specific college has the characteristic represented by the card, there is a clear space on the card at that college's permanent position. If it does not have the characteristic, the space is opaque.

To retrieve data from the College Suggestor, individual cards representing the desired characteristics are selected from the pack of 220 cards. These are superimposed one on the other.

Where spaces on the cards are coincident, points of light are visible. These dots of light represent colleges having all the desired characteristics. In the spaces, reference numbers are printed. These numbers identify specific colleges in an accompanying code book.

The ease with which the College Suggestor is used is suggested by this example:

The student wants a college with library science as a major field (1), located in the Midwest (2), where aid is available (3), a coeducational institution (4), with tuition charges under $1,000 (5), in a suburban community (6), with an enrollment between 1,000 and 2,499 (7), having a low student-faculty ratio (8), and where 75 percent of the faculty have Ph.D.'s (9).
APPENDIX V. (continued)

The cards representing the nine characteristics are stacked together and reveal through the dots of light those colleges that meet these requirements. The process takes a couple of minutes at the most.

Mathis said that by the time the College Suggestor is put into production it may offer as many as 300 to 350 characteristics in contrast to the prototype's 220.

Data on the 2,160 colleges is being gathered from a number of sources including principally the annual surveys of the U. S. Office of Education and a questionnaire being sent to each of the colleges.

The Educational Testing Service already has begun a thorough search of educational literature to determine college characteristics that are usable and available.

The College Suggestor will incorporate an up-dating feature consisting of cards not yet programmed, said Mathis, who sees the device as a further attempt to introduce efficiency into the educational process.
College selector aid

A device to assist guidance counselors in matching characteristics of various colleges with the needs and desires of potential students is under development at Northwestern U. with the aid of a $55,077 federal grant. Called the "College Suggestor," it will offer, for most of the nation's colleges, some 220 characteristics ("tuition under $1,000," "library science a major field," etc.). The student makes his choice among these and within minutes gets a list of colleges which meet his needs.

A prototype is to be completed this winter and production models will be offered for less than $50 in 1967.