PAEA **RESEARCH**

# Curriculum Report 4 | Prerequisites

By the Numbers | Data from the 2018 Prerequisite Curriculum Survey

PAEA

## Acknowledgements

PAEA acknowledges the Research Mission Advancement Commission (RMAC) and its current chair, Richard Dehn, MPA, PA-C, for their review and guidance. The PAEA Research Team was responsible for the development and administration of the survey as well as for the preparation of this report. For any questions regarding the contents of this report, please contact **research@PAEAonline.org**.

PAEA Research Team:
Cynthia X. Yuen, MA, Director of Research & Data Analysis
Ryan Chitwood, MS, Research & Data Analyst
David Keahey, MSPH, PA-C, Chief Policy and Research Officer
Dominique Frias, Research Coordinator

The PAEA RMAC and Research Team would like to thank the program directors, faculty, and staff who provided these data. Also, thank you to Editorial Director Elizabeth Alesbury for her editing contributions and to The YGS Group for designing the report.

## Recommended Citation

Physician Assistant Education Association, *By the Numbers: Curriculum Report 4: Data from the 2018 Prerequisite Curriculum Survey,* Washington, DC: PAEA; 2019. doi: 10.17538/CR4.2019.003

# BY THE NUMBERS

## CURRICULUM REPORT 4: DATA FROM THE 2018 PREREQUISITE CURRICULUM SURVEY

## TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# INTRODUCTION

### Physician Assistant Education Association

Founded in 1972, the Physician Assistant Education Association (PAEA) is the only national organization representing PA education programs in the United States. At the time of the 2018 Prerequisite Curriculum Survey administration in June 2018, PAEA represented 236 PA programs. For more information about PAEA and our products and services, visit **PAEAonline.org**.

# METHODS

### Survey Instrument

The 2018 Prerequisite Curriculum Survey collected data that are reported in the following sections:

**Section 1. Program characteristics**
Includes general information regarding the types of PA programs represented in the dataset (e.g., geographic information, administrative housing) as collected in the 2018 Program Survey, as well as information on credits, credentials, and incoming class sizes.

**Section 2. Required prerequisite coursework, health care experience, and tests**
Includes information on the types of required prerequisite coursework, health care experiences, and standardized tests, as well as reasons and restrictions for these requirements.

**Section 3: Applications and admissions**
Includes information on types of students admitted, student preferences and pathways, and components of the application and interview processes.

**Section 4: Curricular design**
Includes information on program mission, curricular focus, special tracks, and more.

The data in all sections of the survey reflect the 2017–2018 academic year.

### Survey Administration

The Curriculum Survey is administered in three parts that rotate annually and that correspond to the major phases of PA school: the prerequisites/admissions phase, the didactic phase, and the clinical phase. Thus far, the Prerequisite Curriculum Survey has been administered in 2015 and 2018, the Didactic Curriculum Survey administered in 2016 and 2019, and the Clinical Curriculum Survey administered in 2017. Reports on each of the survey results are published the year following administration.

To streamline data collection, the 2018 Prerequisite Curriculum Survey was combined with the 2018 Program Directory Survey, which collected information for **PAEA's Program Directory**, a searchable repository of PA programs. The content of the two surveys overlapped significantly but not entirely. All items pertaining to the Prerequisite Curriculum Survey were required of the 236 accredited programs. Participation in the Program Directory is a PAEA member benefit; thus, response to items specific to the Program Directory Survey was optional. All items that pertained to the Prerequisite Curriculum Survey only were clearly marked.

The combined 2018 Program Directory and Prerequisite Curriculum Survey was sent to the program directors of all PAEA programs, including both developing and accredited programs. This report only includes data from the 236 accredited member programs. The PAEA Research Team sent email reminders to non-respondents and conducted follow-up calls between April and October 2018 until all 236 accredited member programs had completed the survey. The survey closed in October 2018. Completion of both portions of the combined survey was optional for developing programs but Prerequisite Curriculum Survey completion was required of all 236 accredited member programs. Based on the 236 accredited member programs targeted for the Prerequisite Curriculum Survey, the survey yielded an overall response rate of 100%; however, the response rate varied for individual items.

## Data Cleaning & Analysis

Responses to multiple-choice questions were checked for logical consistency and examined for extreme values and possible errors. In cases of obvious misinterpretations or inconsistencies in the responses to specific items, respondents were contacted for clarification. Responses that fell outside of reasonable parameters were not included in the analyses. The number of responses to individual survey items varied slightly. The tables and figures presented in this report display aggregate data from the respondents.

In general, analyses of the data consisted of calculating descriptive statistics on the variables of interest — percentage, minimum and maximum values (range), arithmetic mean (***M***), standard deviation (***SD***), median (***Mdn***), and percentiles (**P**). Tables describing financial information also include a 10% trimmed mean (***M*** (**T**)), or the mean when the bottom and top 10% of responses are excluded. For some tables and figures, percentages will not equal 100% due to rounding or when multiple responses were allowed. Total columns on tables and figures are designated by ***n***. Exact financial data were not reported if there were fewer than five respondents. Any other notations not described here are defined in the body of the report.

## Questions & Data Requests

The data from the 2018 Prerequisite Curriculum Survey, as well as custom reports using these data, are available upon request. More information is available in PAEA's **Data Request & Sharing Policies**. Please direct inquiries regarding data requests or this report to the Research Team at **research@PAEAonline.org**.

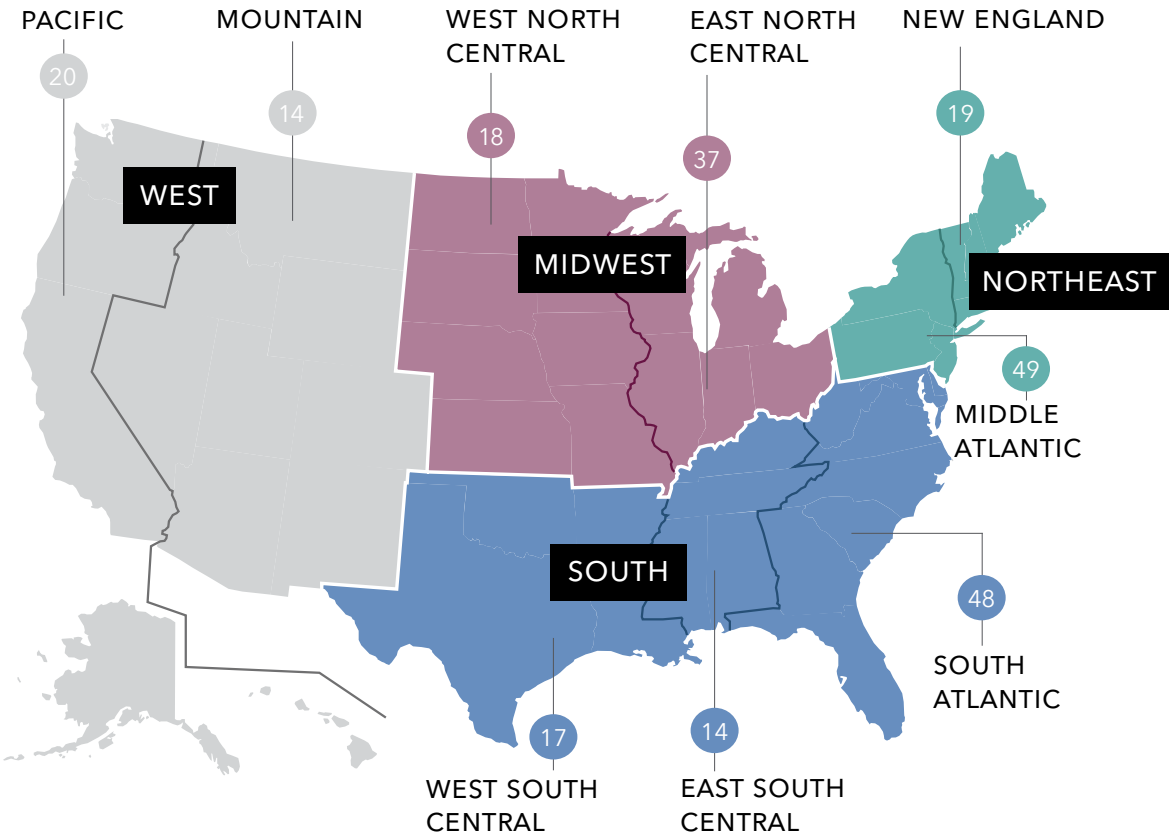
# SECTION 1. PROGRAM CHARACTERISTICS

**TABLE 1. SPONSORING INSTITUTION ATTRIBUTES**

| | *n* | % |
|---|---|---|
| **Type of institution** | | |
| Private, non-profit | 147 | 62.3 |
| Public | 71 | 30.1 |
| Private, for-profit | 15 | 6.4 |
| Public/private hybrid | 2 | 0.8 |
| Military | 1 | 0.4 |
| **AHC status** | | |
| Non-Academic Health Center | 167 | 70.8 |
| Academic Health Center | 69 | 29.2 |
| **Administrative housing** | | |
| School of Allied Health/ Health Professions/ Health Sciences | 120 | 50.8 |
| Department of PA Studies/PA Program | 39 | 16.5 |
| College/School of Medicine | 36 | 15.3 |
| College of Arts and Sciences | 13 | 5.5 |
| College of Graduate and Professional Studies | 13 | 5.5 |
| Other health discipline (e.g., Nursing, Pharmacy, Podiatry, etc.) | 9 | 3.8 |
| Science Department | 6 | 2.5 |
| **Total** | **236** | **100.0** |

*Note: This information was collected in the Program Survey, which was administered concurrently. Please see **Program Report 34** for more information.*

**FIGURE 1. U.S. CENSUS BUREAU REGIONS AND DIVISIONS**




## **REGION 1** NORTHEAST
68 PROGRAMS

**DIVISION 1** NEW ENGLAND
Connecticut (6)
Maine (1)
Massachusetts (8)
New Hampshire (2)
Rhode Island (2)
Vermont (0)

**DIVISION 2** MIDDLE ATLANTIC
New Jersey (3)
New York (23)
Pennsylvania (23)

## **REGION 2** MIDWEST
55 PROGRAMS

**DIVISION 3** EAST NORTH CENTRAL
Illinois (6)
Indiana (7)
Michigan (6)
Ohio (13)
Wisconsin (5)

**DIVISION 4** WEST NORTH CENTRAL
Iowa (4)
Kansas (1)
Minnesota (4)
Missouri (4)
Nebraska (3)
North Dakota (1)
South Dakota (1)

## **REGION 3** SOUTH
79 PROGRAMS

**DIVISION 5** SOUTH ATLANTIC
Delaware (0)
District of Columbia (1)
Florida (14)
Georgia (4)
Maryland (2)
North Carolina (11)
South Carolina (5)
Virginia (8)
West Virginia (3)

**DIVISION 6** EAST SOUTH CENTRAL
Alabama (2)
Kentucky (3)
Mississippi (1)
Tennessee (8)

**DIVISION 7** WEST SOUTH CENTRAL
Arkansas (2)
Louisiana (3)
Oklahoma (3)
Texas (9)

## **REGION 4** WEST
34 PROGRAMS

**DIVISION 8** MOUNTAIN
Arizona (3)
Colorado (3)
Idaho (1)
Montana (1)
Nevada (2)
New Mexico (2)
Utah (2)
Wyoming (0)

**DIVISION 9** PACIFIC
Alaska (0)
California (16)
Hawaii (0)
Oregon (2)
Washington (2)

*Note: Numbers in parentheses indicate the number of PAEA member programs in each state.*

**TABLE 2. GEOGRAPHIC DISTRIBUTION OF PA PROGRAMS**

| | *n* | % |
|---|---|---|
| **Northeast Region** | | |
| New England Division | 19 | 8.1 |
| Middle Atlantic Division | 49 | 20.8 |
| Subtotal | **68** | **28.8** |
| **Midwest Region** | | |
| East North Central Division | 37 | 15.7 |
| West North Central Division | 18 | 7.6 |
| Subtotal | **55** | **23.3** |
| **South Region** | | |
| South Atlantic Division | 48 | 20.3 |
| East South Central Division | 14 | 5.9 |
| West South Central Division | 17 | 7.2 |
| Subtotal | **79** | **33.5** |
| **West Region** | | |
| Mountain Division | 14 | 5.9 |
| Pacific Division | 20 | 8.5 |
| Subtotal | 34 | 14.4 |
| **Total** | **236** | **100.0** |

**TABLE 3. TOTAL PA PROGRAM LENGTH (MONTHS)**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| PA program length | 236 | 20.0–36.0 | 26.8 | 2.5 | 27.0 |

**TABLE 4. NUMBER OF ACADEMIC CREDITS REQUIRED FOR PROGRAM COMPLETION**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| Didactic coursework/Classroom phase | 231 | 26.5–141.0 | 65.3 | 15.7 | 48.0 | 55.8 | 65.0 | 72.0 | 86.0 |
| Clinical rotations/Clinical coursework/ Supervised clinical practice | 231 | 10.0–81.0 | 45.7 | 12.4 | 30.0 | 37.0 | 46.0 | 52.0 | 61.0 |
| Other hours | 39 | 2.0–50.0 | 9.0 | 10.3 | 3.0 | 4.0 | 6.0 | 8.0 | 14.6 |
| **Total credits** | **231** | **54.0–187.0** | **112.6** | **21.2** | **90.0** | **99.0** | **110.0** | **123.0** | **142.0** |

*Note: Zeroes were excluded from calculations of "other hours." Total credits was calculated by summing the number of required diactic, clinical, and other credits.*

**TABLE 5. CREDENTIALS OFFERED TO GRADUATES ENTERING THE PA PROGRAM IN 2019**

| | *n* | % |
|---|---|---|
| Certificate | 9 | 3.8 |
| Associate | 0 | 0.0 |
| Bachelor | 8 | 3.4 |
| Master | 232 | 99.1 |
| Doctorate | 0 | 0.0 |
| **Total** | **234** | – |

*Note: Programs that selected "Prefer not to answer" were excluded. Percentages may sum to more than 100% because programs could select multiple credentials.*

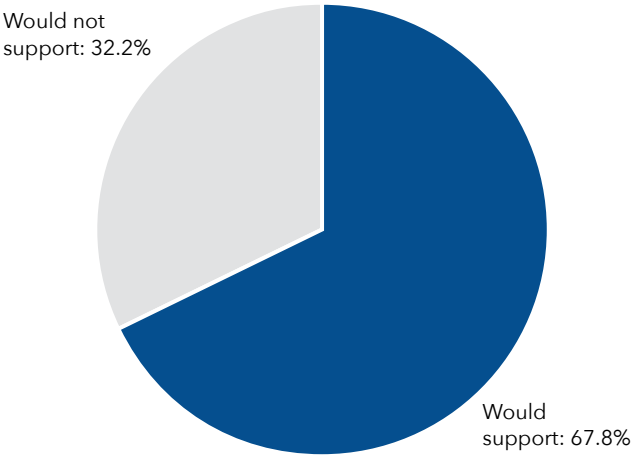
*All programs offering a certificate, and 6 of the 8 programs offering a bachelor's degree, offer a master's degree as well. Programs may offer both a certificate and a degree.*

**TABLE 6. ESTIMATED SIZE OF INCOMING CLASS**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| Class size | 234 | 17.0–200.0 | 47.6 | 22.6 | 27.3 | 30.0 | 42.0 | 58.8 | 75.0 |

# SECTION 2. REQUIRED PREREQUISITE COURSEWORK, HEALTH CARE EXPERIENCE, AND TESTS

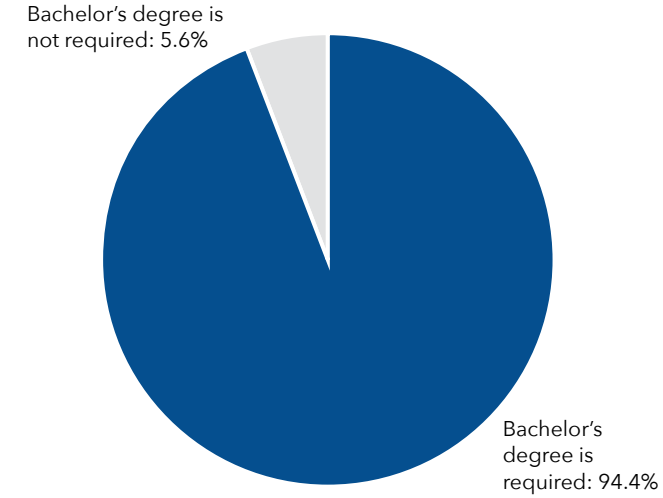
**FIGURE 2. SUPPORT FOR UNIVERSAL PREREQUISITES**




*Note: n = 233 responding programs*

*Anecdotally and as quantified in this report, there is wide variability among PA programs regarding the prerequisites required for admission. Programs were asked whether they would support an effort by PA education to develop a list of universal academic course prerequisites for admission to all PA programs.*

**FIGURE 3. IS A BACHELOR'S DEGREE REQUIRED FOR ENTRY INTO THE GRADUATE PROGRAM?**




*Note: n = 234 responding programs*

*These data include programs that admit students into a pre-professional phase prior to completing a bachelor's degree, ultimately resulting in a master's degree upon completion of PA training.*

## Prerequisite Coursework

Programs were asked to indicate which of a list of courses they required prospective students to complete prior to entering the graduate, professional phase of the program. Subsequently, for each required prerequisite course, programs were asked to report their reasons for the requirement, the minimum number of semester hours required, the minimum grade required, and any restrictions upon accepting the coursework.

Results are presented in two ways. First, results for all courses are presented together (pp. 7–12). Second, the results are re-organized into "Prerequisite Profiles" for the 12 prerequisite courses required by at least 20% of responding programs. These Prerequisite Profiles contain the same information reported in the aggregate tables but are organized individually by course for easy reference. These 12 courses are:

- Anatomy
- Biochemistry
- Biology (general)
- Biology (microbiology)
- Chemistry (general)
- Chemistry (organic)
- English composition/Writing
- Genetics
- Medical terminology
- Physiology
- Psychology (general)
- Statistics

**TABLE 7. PREREQUISITE COURSES REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Anatomy | 221 | 94.4 |
| Behavioral science | 41 | 17.5 |
| Biochemistry | 97 | 41.5 |
| Biology (general) | 151 | 64.5 |
| Biology (cell) | 12 | 5.1 |
| Biology (microbiology) | 188 | 80.3 |
| Biology (other) | 27 | 11.5 |
| Chemistry (general) | 196 | 83.8 |
| Chemistry (organic) | 128 | 54.7 |
| CPR | 25 | 10.7 |
| English composition/Writing | 72 | 30.8 |
| English literature | 10 | 4.3 |
| English (speech) | 9 | 3.8 |
| Ethics | 10 | 4.3 |
| Foreign language | 0 | 0.0 |
| Genetics | 65 | 27.8 |
| Government | 3 | 1.3 |
| History | 3 | 1.3 |
| Humanities | 27 | 11.5 |
| Math (general) | 16 | 6.8 |
| Math (algebra) | 37 | 15.8 |
| Math (pre-calculus) | 12 | 5.1 |
| Math (calculus) | 7 | 3.0 |
| Medical ethics | 4 | 1.7 |
| Medical terminology | 90 | 38.5 |
| Nutrition | 4 | 1.7 |
| Physics | 8 | 3.4 |
| Psychology (general) | 142 | 60.7 |
| Psychology (abnormal) | 20 | 8.5 |
| Psychology (developmental) | 26 | 11.1 |
| Physiology | 195 | 83.3 |
| Spanish | 2 | 0.9 |
| Statistics | 174 | 74.4 |
| Other | 58 | 24.8 |
| **Total** | **234** | **–** |

*Note: Programs were instructed to select the course names that most closely aligned with their requirements. Percentages may sum to more than 100% because programs could select multiple credentials.*

*Programs had the option to indicate that no prerequisite courses were required. Although not all programs responded, no programs indicated that they did not require prerequisite courses. Among the 234 responding programs, the average number of required prerequisite courses from this 33-course list was 8.6 (**range** = 1–20, **SD** = 2.8, **Mdn** = 8.0). "Other" prerequisite courses were excluded from these figures. Foreign language, government, history, medical ethics, nutrition, and Spanish were excluded from subsequent tables due to the low frequency of programs requiring these prerequisite courses.*

**FIGURE 4. PREREQUISITE COURSES REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE (%)**

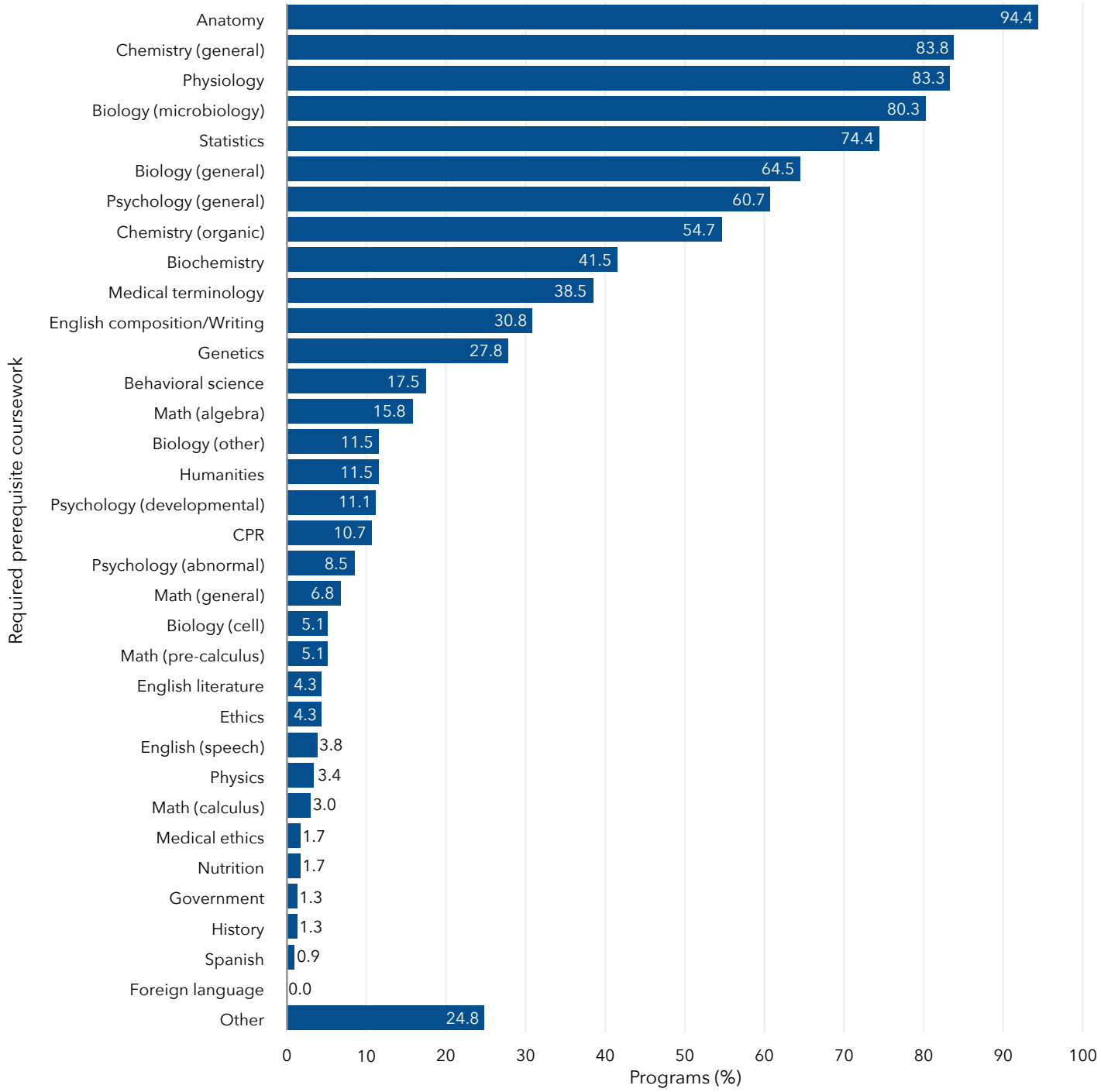


**TABLE 8. REASONS PREREQUISITE COURSES ARE REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | | Foundation for program course(s) | | Substitute for course(s) not included in the program curriculum | | Institutional requirement | | State requirement | | Other reason | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***N*** | ***n*** | **%** | ***n*** | **%** | ***n*** | **%** | ***n*** | **%** | ***n*** | **%** |
| Anatomy | 220 | 220 | 100.0 | 2 | 0.9 | 6 | 2.7 | 1 | 0.5 | 0 | 0.0 |
| Behavioral science | 41 | 39 | 95.1 | 0 | 0.0 | 5 | 12.2 | 0 | 0.0 | 0 | 0.0 |
| Biochemistry | 95 | 95 | 100.0 | 0 | 0.0 | 3 | 3.2 | 0 | 0.0 | 0 | 0.0 |
| Biology (general) | 150 | 149 | 99.3 | 2 | 1.3 | 5 | 3.3 | 0 | 0.0 | 1 | 0.7 |
| Biology (cell) | 120 | 12 | 10.0 | 0 | 0.0 | 1 | 0.8 | 0 | 0.0 | 0 | 0.0 |
| Biology (microbiology) | 187 | 187 | 100.0 | 4 | 2.1 | 6 | 3.2 | 0 | 0.0 | 0 | 0.0 |
| Biology (other) | 27 | 26 | 96.3 | 1 | 3.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Chemistry (general) | 195 | 189 | 96.9 | 5 | 2.6 | 7 | 3.6 | 1 | 0.5 | 5 | 2.6 |
| Chemistry (organic) | 127 | 124 | 97.6 | 2 | 1.6 | 3 | 2.4 | 0 | 0.0 | 3 | 2.4 |
| CPR | 25 | 21 | 84.0 | 0 | 0.0 | 3 | 12.0 | 0 | 0.0 | 3 | 12.0 |
| English composition/Writing | 72 | 61 | 84.7 | 2 | 2.8 | 12 | 16.7 | 3 | 4.2 | 3 | 4.2 |
| English literature | 9 | 5 | 55.6 | 0 | 0.0 | 5 | 55.6 | 0 | 0.0 | 0 | 0.0 |
| English (speech) | 5 | 5 | 100.0 | 0 | 0.0 | 5 | 100.0 | 0 | 0.0 | 0 | 0.0 |
| Ethics | 10 | 7 | 70.0 | 0 | 0.0 | 3 | 30.0 | 0 | 0.0 | 0 | 0.0 |
| Genetics | 65 | 65 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Humanities | 26 | 19 | 73.1 | 1 | 3.8 | 10 | 38.5 | 1 | 3.8 | 0 | 0.0 |
| Math (general) | 16 | 14 | 87.5 | 0 | 0.0 | 3 | 18.8 | 0 | 0.0 | 0 | 0.0 |
| Math (algebra) | 35 | 35 | 100.0 | 3 | 8.6 | 4 | 11.4 | 1 | 2.9 | 0 | 0.0 |
| Math (pre-calculus) | 11 | 8 | 72.7 | 0 | 0.0 | 2 | 18.2 | 1 | 9.1 | 0 | 0.0 |
| Math (calculus) | 7 | 7 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Medical terminology | 90 | 89 | 98.9 | 5 | 5.6 | 2 | 2.2 | 0 | 0.0 | 1 | 1.1 |
| Physics | 8 | 8 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Psychology (general) | 141 | 137 | 97.2 | 1 | 0.7 | 4 | 2.8 | 1 | 0.7 | 1 | 0.7 |
| Psychology (abnormal) | 20 | 20 | 100.0 | 0 | 0.0 | 1 | 5.0 | 0 | 0.0 | 0 | 0.0 |
| Psychology (developmental) | 26 | 25 | 96.2 | 0 | 0.0 | 3 | 11.5 | 1 | 3.8 | 0 | 0.0 |
| Physiology | 194 | 194 | 100.0 | 3 | 1.5 | 6 | 3.1 | 1 | 0.5 | 0 | 0.0 |
| Statistics | 172 | 170 | 98.8 | 1 | 0.6 | 6 | 3.5 | 0 | 0.0 | 1 | 0.6 |

*Note: N refers to the total number of programs that reported reasons for requiring each course. n refers to the number of programs that reported requiring each course for a particular reason. Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 9. MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR PREREQUISITE COURSES**

| | *n* | % reporting | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|---|
| Anatomy | 202 | 91.4 | 1.0–8.0 | 4.2 | 1.5 | 4.0 |
| Behavioral science | 35 | 85.4 | 3.0–9.0 | 4.5 | 1.9 | 3.0 |
| Biochemistry | 81 | 83.5 | 3.0–4.0 | 3.1 | 0.3 | 3.0 |
| Biology (general) | 140 | 92.7 | 3.0–16.0 | 5.7 | 2.3 | 4.0 |
| Biology (cell) | 10 | 83.3 | 3.0–8.0 | 3.8 | 1.5 | 3.0 |
| Biology (microbiology) | 168 | 89.4 | 1.0–5.0 | 3.5 | 0.6 | 4.0 |
| Biology (other) | 25 | 92.6 | 3.0–16.0 | 5.3 | 3.4 | 4.0 |
| Chemistry (general) | 180 | 91.8 | 1.0–16.0 | 6.4 | 2.4 | 8.0 |
| Chemistry (organic) | 119 | 93.0 | 1.0–8.0 | 4.1 | 1.4 | 4.0 |
| CPR | 7 | 28.0 | 1.0–6.0 | 2.3 | 2.0 | 1.0 |
| English composition/Writing | 65 | 90.3 | 1.0–8.0 | 4.2 | 1.6 | 3.0 |
| English literature | 10 | 100.0 | 3.0–6.0 | 3.6 | 1.3 | 3.0 |
| English (speech) | 7 | 77.8 | 1.0–2.0 | 1.1 | 0.4 | 1.0 |
| Ethics | 7 | 70.0 | 3.0–4.0 | 3.1 | 0.4 | 3.0 |
| Genetics | 58 | 89.2 | 2.0–4.0 | 3.1 | 0.4 | 3.0 |
| Humanities | 25 | 92.6 | 3.0–16.0 | 6.2 | 3.3 | 6.0 |
| Math (general) | 16 | 100.0 | 3.0–6.0 | 3.4 | 1.0 | 3.0 |
| Math (algebra) | 36 | 97.3 | 3.0–6.0 | 3.1 | 0.5 | 3.0 |
| Math (pre-calculus) | 11 | 91.7 | 3.0–3.0 | 3.0 | 0.0 | 3.0 |
| Math (calculus) | 7 | 100.0 | 3.0–6.0 | 3.4 | 1.1 | 3.0 |
| Medical terminology | 76 | 84.4 | 1.0–3.0 | 1.4 | 0.7 | 1.0 |
| Physics | 7 | 87.5 | 3.0–4.0 | 3.4 | 0.5 | 3.0 |
| Psychology (general) | 132 | 93.0 | 2.0–9.0 | 3.3 | 1.2 | 3.0 |
| Psychology (abnormal) | 17 | 85.0 | 2.0–3.0 | 2.9 | 0.3 | 3.0 |
| Psychology (developmental) | 25 | 96.2 | 1.0–3.0 | 2.9 | 0.4 | 3.0 |
| Physiology | 176 | 90.3 | 3.0–8.0 | 3.8 | 1.1 | 4.0 |
| Statistics | 160 | 92.0 | 1.0–9.0 | 3.0 | 0.7 | 3.0 |

*Note: % reporting refers to the proportion of programs requiring each course that also reported a minimum number of semester hours for that course. Zeroes were excluded prior to analysis. Prerequisite courses for which fewer than 5 programs reported minimum semester hours were excluded from this table (i.e., government, history, medical ethics, nutrition, Spanish).*

*Programs were asked to report the minimum number of semester credit hours required for each required prerequisite course. In cases when a program reported a range, we retained the minimum value. For example, a report of 3–4 minimum semester credit hours would be recoded as 3.*

**TABLE 10. MINIMUM GRADE REQUIRED FOR PREREQUISITE COURSES**

| | | | B+ | | B | | B– | | C+ | | C | | C– | | Pass | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *N* | % reporting | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Anatomy | 171 | 77.4 | 2 | 1.2 | 27 | 15.8 | 17 | 9.9 | 3 | 1.8 | 115 | 67.3 | 7 | 4.1 | 0 | 0.0 |
| Behavioral science | 31 | 75.6 | 0 | 0.0 | 1 | 3.2 | 2 | 6.5 | 1 | 3.2 | 24 | 77.4 | 3 | 9.7 | 0 | 0.0 |
| Biochemistry | 71 | 73.2 | 1 | 1.4 | 8 | 11.3 | 5 | 7.0 | 1 | 1.4 | 53 | 74.6 | 3 | 4.2 | 0 | 0.0 |
| Biology (general) | 113 | 74.8 | 0 | 0.0 | 18 | 15.9 | 11 | 9.7 | 1 | 0.9 | 77 | 68.1 | 6 | 5.3 | 0 | 0.0 |
| Biology (cell) | 7 | 58.3 | 0 | 0.0 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 6 | 85.7 | 0 | 0.0 | 0 | 0.0 |
| Biology (microbiology) | 145 | 77.1 | 2 | 1.4 | 21 | 14.5 | 13 | 9.0 | 2 | 1.4 | 100 | 69.0 | 7 | 4.8 | 0 | 0.0 |
| Biology (other) | 20 | 74.1 | 0 | 0.0 | 2 | 10.0 | 1 | 5.0 | 0 | 0.0 | 14 | 70.0 | 3 | 15.0 | 0 | 0.0 |
| Chemistry (general) | 146 | 74.5 | 1 | 0.7 | 22 | 15.1 | 15 | 10.3 | 3 | 2.1 | 98 | 67.1 | 7 | 4.8 | 0 | 0.0 |
| Chemistry (organic) | 96 | 75.0 | 0 | 0.0 | 6 | 6.3 | 10 | 10.4 | 3 | 3.1 | 71 | 74.0 | 6 | 6.3 | 0 | 0.0 |
| CPR | 13 | 52.0 | 0 | 0.0 | 1 | 7.7 | 1 | 7.7 | 0 | 0.0 | 5 | 38.5 | 1 | 7.7 | 5 | 38.5 |
| English composition/ Writing | 53 | 73.6 | 0 | 0.0 | 6 | 11.3 | 4 | 7.5 | 1 | 1.9 | 39 | 73.6 | 3 | 5.7 | 0 | 0.0 |
| English literature | 9 | 90.0 | 0 | 0.0 | 1 | 11.1 | 2 | 22.2 | 1 | 11.1 | 4 | 44.4 | 1 | 11.1 | 0 | 0.0 |
| English (speech) | 5 | 55.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 20.0 | 4 | 80.0 | 0 | 0.0 | 0 | 0.0 |
| Ethics | 8 | 80.0 | 0 | 0.0 | 1 | 12.5 | 0 | 0.0 | 1 | 12.5 | 5 | 62.5 | 1 | 12.5 | 0 | 0.0 |
| Genetics | 54 | 83.1 | 0 | 0.0 | 9 | 16.7 | 6 | 11.1 | 2 | 3.7 | 33 | 61.1 | 4 | 7.4 | 0 | 0.0 |
| Humanities | 21 | 77.8 | 0 | 0.0 | 2 | 9.5 | 3 | 14.3 | 1 | 4.8 | 14 | 66.7 | 1 | 4.8 | 0 | 0.0 |
| Math (general) | 13 | 81.3 | 0 | 0.0 | 2 | 15.4 | 1 | 7.7 | 1 | 7.7 | 9 | 69.2 | 0 | 0.0 | 0 | 0.0 |
| Math (algebra) | 27 | 73.0 | 0 | 0.0 | 4 | 14.8 | 2 | 7.4 | 1 | 3.7 | 18 | 66.7 | 2 | 7.4 | 0 | 0.0 |
| Math (pre-calculus) | 7 | 58.3 | 0 | 0.0 | 1 | 14.3 | 2 | 28.6 | 1 | 14.3 | 3 | 42.9 | 0 | 0.0 | 0 | 0.0 |
| Math (calculus) | 7 | 100.0 | 0 | 0.0 | 0 | 0.0 | 1 | 14.3 | 0 | 0.0 | 3 | 42.9 | 3 | 42.9 | 0 | 0.0 |
| Medical terminology | 67 | 74.4 | 1 | 1.5 | 9 | 13.4 | 5 | 7.5 | 1 | 1.5 | 46 | 68.7 | 4 | 6.0 | 1 | 1.5 |
| Physics | 5 | 62.5 | 0 | 0.0 | 1 | 20.0 | 1 | 20.0 | 1 | 20.0 | 2 | 40.0 | 0 | 0.0 | 0 | 0.0 |
| Psychology (general) | 106 | 74.6 | 1 | 0.9 | 16 | 15.1 | 9 | 8.5 | 2 | 1.9 | 75 | 70.8 | 3 | 2.8 | 0 | 0.0 |
| Psychology (abnormal) | 13 | 65.0 | 0 | 0.0 | 2 | 15.4 | 1 | 7.7 | 1 | 7.7 | 9 | 69.2 | 0 | 0.0 | 0 | 0.0 |
| Psychology (developmental) | 19 | 73.1 | 1 | 5.3 | 3 | 15.8 | 1 | 5.3 | 1 | 5.3 | 12 | 63.2 | 1 | 5.3 | 0 | 0.0 |
| Physiology | 150 | 76.9 | 2 | 1.3 | 26 | 17.3 | 15 | 10.0 | 2 | 1.3 | 98 | 65.3 | 7 | 4.7 | 0 | 0.0 |
| Statistics | 137 | 78.7 | 1 | 0.7 | 23 | 16.8 | 10 | 7.3 | 3 | 2.2 | 94 | 68.6 | 6 | 4.4 | 0 | 0.0 |

*Note: N refers to the total number of programs that reported a minimum grade for each course. n refers to the number of programs that reported each minimum required grade. % reporting refers to the proportion of programs requiring each course that reported a minimum grade for that course.*

*Programs were asked to report the minimum grade required for each required prerequisite course. Programs could report either a numeric grade, using a 4.0 scale, or a letter grade. Prior to analysis, all numeric grades were converted to letter grades using* ***CollegeBoard's conversion guidelines****. For example, a program-reported minimum grade of 1.7 would be converted to a C- letter grade. Some programs wrote "pass" for CPR and medical terminology; this was not converted to a letter grade but reported separately.*

**TABLE 11. RESTRICTIONS FOR ACCEPTING REQUIRED PREREQUISITE COURSEWORK**

| | | | Time limit | | Not web-based | | Upper division | | Lower/ Introductory level | | Full sequence | | Lab required | | Other restriction | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *N* | % reporting | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Anatomy | 201 | 91.0 | 105 | 52.2 | 54 | 26.9 | 32 | 15.9 | 11 | 5.5 | 42 | 20.9 | 144 | 71.6 | 7 | 3.5 |
| Behavioral science | 19 | 46.3 | 8 | 42.1 | 5 | 26.3 | 0 | 0.0 | 8 | 42.1 | 1 | 5.3 | 0 | 0.0 | 0 | 0.0 |
| Biochemistry | 63 | 64.9 | 35 | 55.6 | 9 | 14.3 | 29 | 46.0 | 1 | 1.6 | 0 | 0.0 | 9 | 14.3 | 1 | 1.6 |
| Biology (general) | 130 | 86.1 | 49 | 37.7 | 33 | 25.4 | 15 | 11.5 | 14 | 10.8 | 18 | 13.8 | 103 | 79.2 | 2 | 1.5 |
| Biology (cell) | 11 | 91.7 | 3 | 27.3 | 4 | 36.4 | 5 | 45.5 | 0 | 0.0 | 0 | 0.0 | 5 | 45.5 | 0 | 0.0 |
| Biology (microbiology) | 162 | 86.2 | 79 | 48.8 | 29 | 17.9 | 8 | 4.9 | 8 | 4.9 | 117 | 72.2 | 5 | 3.1 | 9 | 5.6 |
| Biology (other) | 24 | 88.9 | 9 | 37.5 | 6 | 25.0 | 11 | 45.8 | 0 | 0.0 | 0 | 0.0 | 7 | 29.2 | 0 | 0.0 |
| Chemistry (general) | 174 | 88.8 | 67 | 38.5 | 40 | 23.0 | 21 | 12.1 | 21 | 12.1 | 31 | 17.8 | 146 | 83.9 | 6 | 3.4 |
| Chemistry (organic) | 107 | 83.6 | 48 | 44.9 | 8 | 7.5 | 8 | 7.5 | 5 | 4.7 | 10 | 9.3 | 74 | 69.2 | 3 | 2.8 |
| CPR | 10 | 40.0 | 6 | 60.0 | 0 | 0.0 | 1 | 10.0 | 2 | 20.0 | 1 | 10.0 | 0 | 0.0 | 0 | 0.0 |
| English composition/ Writing | 28 | 38.9 | 13 | 46.4 | 4 | 14.3 | 1 | 3.6 | 10 | 35.7 | 2 | 7.1 | 0 | 0.0 | 0 | 0.0 |
| English literature | 4 | 40.0 | 1 | 25.0 | 1 | 25.0 | 0 | 0.0 | 2 | 50.0 | 1 | 25.0 | 0 | 0.0 | 0 | 0.0 |
| English (speech) | 2 | 22.2 | 1 | 50.0 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Ethics | 6 | 60.0 | 4 | 66.7 | 1 | 16.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Genetics | 41 | 63.1 | 26 | 63.4 | 8 | 19.5 | 8 | 19.5 | 3 | 7.3 | 1 | 2.4 | 3 | 7.3 | 3 | 7.3 |
| Humanities | 19 | 70.4 | 2 | 10.5 | 2 | 10.5 | 1 | 5.3 | 4 | 21.1 | 1 | 5.3 | 0 | 0.0 | 0 | 0.0 |
| Math (general) | 6 | 37.5 | 3 | 50.0 | 1 | 16.7 | 1 | 16.7 | 1 | 16.7 | 1 | 16.7 | 0 | 0.0 | 0 | 0.0 |
| Math (algebra) | 19 | 51.4 | 5 | 26.3 | 4 | 21.1 | 5 | 26.3 | 6 | 31.6 | 1 | 5.3 | 0 | 0.0 | 0 | 0.0 |
| Math (pre-calculus) | 7 | 58.3 | 4 | 57.1 | 1 | 14.3 | 2 | 28.6 | 2 | 28.6 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 |
| Math (calculus) | 5 | 71.4 | 2 | 40.0 | 1 | 20.0 | 0 | 0.0 | 2 | 40.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Medical terminology | 39 | 43.3 | 26 | 66.7 | 1 | 2.6 | 4 | 10.3 | 8 | 20.5 | 1 | 2.6 | 0 | 0.0 | 2 | 5.1 |
| Physics | 6 | 75.0 | 3 | 50.0 | 0 | 0.0 | 1 | 16.7 | 2 | 33.3 | 0 | 0.0 | 2 | 33.3 | 0 | 0.0 |
| Psychology (general) | 72 | 50.7 | 39 | 54.2 | 9 | 12.5 | 4 | 5.6 | 22 | 30.6 | 1 | 1.4 | 1 | 1.4 | 2 | 2.8 |
| Psychology (abnormal) | 14 | 70.0 | 8 | 57.1 | 1 | 7.1 | 3 | 21.4 | 3 | 21.4 | 0 | 0.0 | 0 | 0.0 | 1 | 7.1 |
| Psychology (developmental) | 15 | 57.7 | 6 | 40.0 | 2 | 13.3 | 5 | 33.3 | 3 | 20.0 | 0 | 0.0 | 0 | 0.0 | 2 | 13.3 |
| Physiology | 168 | 86.2 | 95 | 56.5 | 42 | 25.0 | 27 | 16.1 | 11 | 6.5 | 35 | 20.8 | 96 | 57.1 | 8 | 4.8 |
| Statistics | 90 | 51.7 | 55 | 61.1 | 13 | 14.4 | 12 | 13.3 | 19 | 21.1 | 3 | 3.3 | 1 | 1.1 | 4 | 4.4 |

*Note: N refers to the total number of programs that reported coursework restrictions. n refers to the number of programs that reported a particular restriction for each course. % reporting refers to the proportion of programs requiring each course that reported at least one coursework restriction. Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Prerequisite Profiles

In this section, the results from the previous tables are re-organized into "Prerequisite Profiles" for the 12 prerequisite courses required by at least 20% of responding programs. These Prerequisite Profiles contain the same information reported in the aggregate tables but are organized individually by course for easy reference.

## Anatomy

**94.4%** (*n* = 221) of responding programs required students to take anatomy before entering the graduate, professional phase of the program.

**TABLE 12. ANATOMY: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 220 | 100.0 |
| Substitute for course(s) not included in the program curriculum | 2 | 0.9 |
| Institutional requirement | 6 | 2.7 |
| State requirement | 1 | 0.5 |
| Other reason | 0 | 0.0 |
| **Total** | **220** | – |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 13. ANATOMY: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 202 | 1.0–8.0 | 4.2 | 1.5 | 4.0 |

**TABLE 14. ANATOMY: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 2 | 1.2 |
| B | 27 | 15.8 |
| B– | 17 | 9.9 |
| C+ | 3 | 1.8 |
| C | 115 | 67.3 |
| C– | 7 | 4.1 |
| **Total** | **171** | **100.0** |

**TABLE 15. ANATOMY: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 105 | 52.2 |
| Not web-based | 54 | 26.9 |
| Upper division | 32 | 15.9 |
| Lower/Introductory level | 11 | 5.5 |
| Full sequence | 42 | 20.9 |
| Lab required | 144 | 71.6 |
| Other restriction | 7 | 3.5 |
| **Total** | **201** | – |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Biochemistry

**41.5%** (*n* = 97) of responding programs required students to take biochemistry before entering the graduate, professional phase of the program.

**TABLE 16. BIOCHEMISTRY: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 95 | 100.0 |
| Substitute for course(s) not included in the program curriculum | 0 | 0.0 |
| Institutional requirement | 3 | 3.2 |
| State requirement | 0 | 0.0 |
| Other reason | 0 | 0.0 |
| **Total** | **95** | **–** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 17. BIOCHEMISTRY: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 81 | 3.0–4.0 | 3.1 | 0.3 | 3.0 |

**TABLE 18. BIOCHEMISTRY: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 1 | 1.4 |
| B | 8 | 11.3 |
| B– | 5 | 7.0 |
| C+ | 1 | 1.4 |
| C | 53 | 74.6 |
| C– | 3 | 4.2 |
| **Total** | **71** | **100.0** |

**TABLE 19. BIOCHEMISTRY: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 35 | 55.6 |
| Not web-based | 9 | 14.3 |
| Upper division | 29 | 46.0 |
| Lower/Introductory level | 1 | 1.6 |
| Full sequence | 0 | 0.0 |
| Lab required | 9 | 14.3 |
| Other restriction | 1 | 1.6 |
| **Total** | **63** | **–** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Biology (General)

**64.5%** ($n$ = 151) of responding programs required students to take biology (general) before entering the graduate, professional phase of the program.

**TABLE 20. BIOLOGY (GENERAL): REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 149 | 99.3 |
| Substitute for course(s) not included in the program curriculum | 2 | 1.3 |
| Institutional requirement | 5 | 3.3 |
| State requirement | 0 | 0.0 |
| Other reason | 1 | 0.7 |
| **Total** | **150** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 21. BIOLOGY (GENERAL): MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 140 | 3.0–16.0 | 5.7 | 2.3 | 4.0 |

**TABLE 22. BIOLOGY (GENERAL): MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 0 | 0.0 |
| B | 18 | 15.9 |
| B– | 5 | 7.0 |
| C+ | 1 | 0.9 |
| C | 77 | 68.1 |
| C– | 6 | 5.3 |
| **Total** | **113** | **100.0** |

**TABLE 23. BIOLOGY (GENERAL): RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 49 | 37.7 |
| Not web-based | 33 | 25.4 |
| Upper division | 15 | 11.5 |
| Lower/Introductory level | 14 | 10.8 |
| Full sequence | 18 | 13.8 |
| Lab required | 103 | 79.2 |
| Other restriction | 2 | 1.5 |
| **Total** | **130** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Biology (Microbiology)

**80.3%** (*n* = 188) of responding programs required students to take biology (microbiology) before entering the graduate, professional phase of the program.

**TABLE 24. BIOLOGY (MICROBIOLOGY): REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 187 | 100.0 |
| Substitute for course(s) not included in the program curriculum | 4 | 2.1 |
| Institutional requirement | 6 | 3.2 |
| State requirement | 0 | 0.0 |
| Other reason | 0 | 0.0 |
| **Total** | **187** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 25. BIOLOGY (MICROBIOLOGY): MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 168 | 1.0–5.0 | 3.5 | 0.6 | 4.0 |

**TABLE 26. BIOLOGY (MICROBIOLOGY): MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 2 | 1.4 |
| B | 21 | 14.5 |
| B- | 13 | 9.0 |
| C+ | 2 | 1.4 |
| C | 100 | 69.0 |
| C- | 7 | 4.8 |
| **Total** | **145** | **100.0** |

**TABLE 27. BIOLOGY (MICROBIOLOGY): RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 79 | 48.8 |
| Not web-based | 29 | 17.9 |
| Upper division | 8 | 4.9 |
| Lower/Introductory level | 8 | 4.9 |
| Full sequence | 117 | 72.2 |
| Lab required | 5 | 3.1 |
| Other restriction | 9 | 5.6 |
| **Total** | **162** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Chemistry (General)

**83.8%** ($n$ = 196) of responding programs required students to take chemistry (general) before entering the graduate, professional phase of the program.

**TABLE 28. CHEMISTRY (GENERAL): REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 189 | 96.9 |
| Substitute for course(s) not included in the program curriculum | 5 | 2.6 |
| Institutional requirement | 7 | 3.6 |
| State requirement | 1 | 0.5 |
| Other reason | 5 | 2.6 |
| **Total** | **195** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 29. CHEMISTRY (GENERAL): MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 180 | 1.0–16.0 | 6.4 | 2.4 | 8.0 |

**TABLE 30. CHEMISTRY (GENERAL): MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 1 | 0.7 |
| B | 22 | 15.1 |
| B– | 15 | 10.3 |
| C+ | 3 | 2.1 |
| C | 98 | 67.1 |
| C– | 7 | 4.8 |
| **Total** | **146** | **100.0** |

**TABLE 31. CHEMISTRY (GENERAL): RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 67 | 38.5 |
| Not web-based | 40 | 23.0 |
| Upper division | 21 | 12.1 |
| Lower/Introductory level | 21 | 12.1 |
| Full sequence | 31 | 17.8 |
| Lab required | 146 | 83.9 |
| Other restriction | 6 | 3.4 |
| **Total** | **174** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Chemistry (Organic)

**54.7%** ($n$ = 128) of responding programs required students to take chemistry (organic) before entering the graduate, professional phase of the program.

**TABLE 32. CHEMISTRY (ORGANIC): REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 124 | 97.6 |
| Substitute for course(s) not included in the program curriculum | 2 | 1.6 |
| Institutional requirement | 3 | 2.4 |
| State requirement | 0 | 0.0 |
| Other reason | 3 | 2.4 |
| **Total** | **127** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 33. CHEMISTRY (ORGANIC): MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 119 | 1.0–8.0 | 4.1 | 1.4 | 4.0 |

**TABLE 34. CHEMISTRY (ORGANIC): MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 0 | 0.0 |
| B | 6 | 6.3 |
| B– | 10 | 10.4 |
| C+ | 3 | 3.1 |
| C | 71 | 74.0 |
| C– | 6 | 6.3 |
| **Total** | **96** | **100.0** |

**TABLE 35. CHEMISTRY (ORGANIC): RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 48 | 44.9 |
| Not web-based | 8 | 7.5 |
| Upper division | 8 | 7.5 |
| Lower/Introductory level | 5 | 4.7 |
| Full sequence | 10 | 9.3 |
| Lab required | 74 | 69.2 |
| Other restriction | 3 | 2.8 |
| **Total** | **107** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## English Composition/Writing

**30.8%** (*n* = 72) of responding programs required students to take English composition/writing before entering the graduate, professional phase of the program.

**TABLE 36. ENGLISH COMPOSITION/WRITING: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 61 | 84.7 |
| Substitute for course(s) not included in the program curriculum | 2 | 2.8 |
| Institutional requirement | 12 | 16.7 |
| State requirement | 3 | 4.2 |
| Other reason | 3 | 4.2 |
| **Total** | **72** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 37. ENGLISH COMPOSITION/WRITING: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 65 | 1.0–8.0 | 4.2 | 1.6 | 3.0 |

**TABLE 38. ENGLISH COMPOSITION/WRITING: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 0 | 0.0 |
| B | 6 | 11.3 |
| B- | 4 | 7.5 |
| C+ | 1 | 1.9 |
| C | 39 | 73.6 |
| C- | 3 | 5.7 |
| **Total** | **53** | **100.0** |

**TABLE 39. ENGLISH COMPOSITION/WRITING: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 13 | 46.4 |
| Not web-based | 4 | 14.3 |
| Upper division | 1 | 3.6 |
| Lower/Introductory level | 10 | 35.7 |
| Full sequence | 2 | 7.1 |
| Lab required | 0 | 0.0 |
| Other restriction | 0 | 0.0 |
| **Total** | **28** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Genetics

**27.8%** ($n$ = 65) of responding programs required students to take genetics before entering the graduate, professional phase of the program.

**TABLE 40. GENETICS: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 65 | 100.0 |
| Substitute for course(s) not included in the program curriculum | 0 | 0.0 |
| Institutional requirement | 0 | 0.0 |
| State requirement | 0 | 0.0 |
| Other reason | 0 | 0.0 |
| **Total** | **65** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 41. GENETICS: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 58 | 2.0–4.0 | 3.1 | 0.4 | 3.0 |

**TABLE 42. GENETICS: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 0 | 0.0 |
| B | 9 | 16.7 |
| B– | 6 | 11.1 |
| C+ | 2 | 3.7 |
| C | 33 | 61.1 |
| C– | 4 | 7.4 |
| **Total** | **54** | **100.0** |

**TABLE 43. GENETICS: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 26 | 63.4 |
| Not web-based | 8 | 19.5 |
| Upper division | 8 | 19.5 |
| Lower/Introductory level | 3 | 7.3 |
| Full sequence | 1 | 2.4 |
| Lab required | 3 | 7.3 |
| Other restriction | 3 | 7.3 |
| **Total** | **41** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Medical Terminology

**38.5%** (*n* = 90) of responding programs required students to take medical terminology before entering the graduate, professional phase of the program.

**TABLE 44. MEDICAL TERMINOLOGY: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 89 | 98.9 |
| Substitute for course(s) not included in the program curriculum | 5 | 5.6 |
| Institutional requirement | 2 | 2.2 |
| State requirement | 0 | 0.0 |
| Other reason | 1 | 1.1 |
| **Total** | **90** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 45. MEDICAL TERMINOLOGY: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 76 | 1.0–3.0 | 1.4 | 0.7 | 1.0 |

**TABLE 46. MEDICAL TERMINOLOGY: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 1 | 1.5 |
| B | 9 | 13.4 |
| B- | 5 | 7.5 |
| C+ | 1 | 1.5 |
| C | 46 | 68.7 |
| C- | 4 | 6.0 |
| **Total** | **67** | **100.0** |

**TABLE 47. MEDICAL TERMINOLOGY: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 26 | 66.7 |
| Not web-based | 1 | 2.6 |
| Upper division | 4 | 10.3 |
| Lower/Introductory level | 8 | 20.5 |
| Full sequence | 1 | 2.6 |
| Lab required | 0 | 0.0 |
| Other restriction | 2 | 5.1 |
| **Total** | **39** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Physiology

**83.3%** (*n* = 195) of responding programs required students to take physiology before entering the graduate, professional phase of the program.

**TABLE 48. PHYSIOLOGY: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 194 | 100.0 |
| Substitute for course(s) not included in the program curriculum | 3 | 1.5 |
| Institutional requirement | 6 | 3.1 |
| State requirement | 1 | 0.5 |
| Other reason | 0 | 0.0 |
| **Total** | **194** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 49. PHYSIOLOGY: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 176 | 3.0–8.0 | 3.8 | 1.1 | 4.0 |

**TABLE 50. PHYSIOLOGY: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 2 | 1.3 |
| B | 26 | 17.3 |
| B– | 15 | 10.0 |
| C+ | 2 | 1.3 |
| C | 98 | 65.3 |
| C– | 7 | 4.7 |
| **Total** | **150** | **100.0** |

**TABLE 51. PHYSIOLOGY: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 95 | 56.5 |
| Not web-based | 42 | 25.0 |
| Upper division | 27 | 16.1 |
| Lower/Introductory level | 11 | 6.5 |
| Full sequence | 35 | 20.8 |
| Lab required | 96 | 57.1 |
| Other restriction | 8 | 4.8 |
| **Total** | **168** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Psychology (General)

**60.7%** (*n* = 142) of responding programs required students to take psychology (general) before entering the graduate, professional phase of the program.

**TABLE 52. PSYCHOLOGY (GENERAL): REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 137 | 97.2 |
| Substitute for course(s) not included in the program curriculum | 1 | 0.7 |
| Institutional requirement | 4 | 2.8 |
| State requirement | 1 | 0.7 |
| Other reason | 1 | 0.7 |
| **Total** | **141** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 53. PSYCHOLOGY (GENERAL): MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 132 | 2.0–9.0 | 3.3 | 1.2 | 3.0 |

**TABLE 54. PSYCHOLOGY (GENERAL): MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 1 | 0.9 |
| B | 16 | 15.1 |
| B- | 9 | 8.5 |
| C+ | 2 | 1.9 |
| C | 75 | 70.8 |
| C- | 3 | 2.8 |
| **Total** | **106** | **74.6** |

**TABLE 55. PSYCHOLOGY (GENERAL): RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 39 | 54.2 |
| Not web-based | 9 | 12.5 |
| Upper division | 4 | 5.6 |
| Lower/Introductory level | 22 | 30.6 |
| Full sequence | 1 | 1.4 |
| Lab required | 1 | 1.4 |
| Other restriction | 2 | 2.8 |
| **Total** | **72** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Statistics

**74.4%** ($n$ = 174) of responding programs required students to take statistics before entering the graduate, professional phase of the program.

**TABLE 56. STATISTICS: REASONS COURSE IS REQUIRED FOR ENTRY INTO THE GRADUATE, PROFESSIONAL PHASE**

| | *n* | % |
|---|---|---|
| Foundation for program course(s) | 170 | 98.8 |
| Substitute for course(s) not included in the program curriculum | 1 | 0.6 |
| Institutional requirement | 6 | 3.5 |
| State requirement | 0 | 0.0 |
| Other reason | 1 | 0.6 |
| **Total** | **172** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple reasons.*

**TABLE 57. STATISTICS: MINIMUM NUMBER OF SEMESTER HOURS REQUIRED FOR COURSE**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Semester hours | 160 | 1.0–9.0 | 3.0 | 0.7 | 3.0 |

**TABLE 58. STATISTICS: MINIMUM GRADE REQUIRED FOR COURSE**

| | *n* | % |
|---|---|---|
| B+ | 1 | 0.7 |
| B | 23 | 16.8 |
| B– | 10 | 7.3 |
| C+ | 3 | 2.2 |
| C | 94 | 68.6 |
| C– | 6 | 4.4 |
| **Total** | **137** | **100.0** |

**TABLE 59. STATISTICS: RESTRICTIONS FOR ACCEPTING COURSEWORK**

| | *n* | % |
|---|---|---|
| Time limit | 55 | 61.1 |
| Not web-based | 13 | 14.4 |
| Upper division | 12 | 13.3 |
| Lower/Introductory level | 19 | 21.1 |
| Full sequence | 3 | 3.3 |
| Lab required | 1 | 1.1 |
| Other restriction | 4 | 4.4 |
| **Total** | **90** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple restrictions.*

## Required Minimum GPAs

From a list of different grade point average (GPA) categories, programs were asked to indicate the GPA categories for which a minimum was required. Programs' reports of "Other" GPAs were excluded from analysis. Subsequently, for each required GPA category, programs were asked to report the minimum GPA accepted for entry into the program and the reasons for the requirements.

**TABLE 60. GPA CATEGORIES FOR WHICH A MINIMUM IS REQUIRED**

| | *n* | % |
|---|---|---|
| Overall undergraduate GPA | 183 | 83.6 |
| Science undergraduate GPA | 121 | 55.3 |
| Non-science undergraduate GPA | 9 | 4.1 |
| Biology, chemistry, and physics (BCP) GPA | 10 | 4.6 |
| Prerequisite GPA | 72 | 32.9 |
| No minimum GPAs required | 12 | 5.5 |
| **Total** | **219** | – |

*Note: Percentages may sum to more than 100% because programs could select multiple required GPAs.*

*"No minimum GPAs required" was an exclusive response, meaning that, if a program selected this option, they could not then select other required GPA categories in addition. 5.5% of responding programs indicated that they did not have any minimum GPA requirements.*

**TABLE 61. MINIMUM REQUIRED GPAs**

| | *n* | % reporting | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|---|
| Overall undergraduate GPA | 181 | 98.9 | 2.50–3.40 | 3.0 | 0.1 | 3.0 |
| Science undergraduate GPA | 119 | 98.3 | 2.75–3.40 | 3.0 | 0.1 | 3.0 |
| Non-science undergraduate GPA | 9 | 100.0 | 2.33–3.25 | 2.9 | 0.3 | 3.0 |
| Biology, chemistry, and physics (BCP) GPA | 10 | 100.0 | 2.75–3.25 | 3.0 | 0.1 | 3.0 |
| Prerequisite GPA | 71 | 98.6 | 2.00–3.50 | 2.9 | 0.3 | 3.0 |

*Note: % reporting refers to the proportion of programs requiring each GPA that also reported the minimum GPA required.*

**TABLE 62. REASONS FOR REQUIRING GPAs**

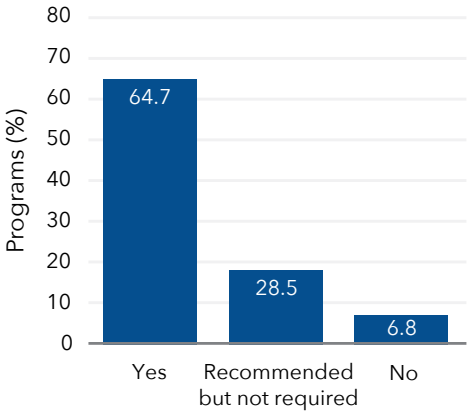
| | | | University or graduate school requirement | | Shown to predict ability to complete the program | | Narrow the applicant pool | | Other reason | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *N* | % reporting | *n* | % | *n* | % | *n* | % | *n* | % |
| Overall undergraduate GPA | 182 | 99.5 | 64 | 35.2 | 132 | 72.5 | 85 | 46.7 | 5 | 2.7 |
| Science undergraduate GPA | 119 | 98.3 | 21 | 17.6 | 98 | 82.4 | 54 | 45.4 | 5 | 4.2 |
| Non-science undergraduate GPA | 9 | 100.0 | 3 | 33.3 | 5 | 55.6 | 3 | 33.3 | 0 | 0.0 |
| Biology, chemistry, and physics (BCP) GPA | 10 | 100.0 | 1 | 10.0 | 9 | 90.0 | 4 | 40.0 | 1 | 10.0 |
| Prerequisite GPA | 72 | 100.0 | 13 | 18.1 | 54 | 75.0 | 33 | 45.8 | 6 | 8.3 |

*Note: N refers to the total number of programs that reported reasons for requiring a particular type of GPA. % reporting refers to the proportion of programs requiring each GPA that also reported their reasons for the requirement. n refers to the number of programs that reported a particular reason for each type of GPA. Percentages may sum to more than 100% because programs could select multiple reasons.*

## Required Health Care Experience

Programs that required students to have health care experience were asked to indicate the types and minimum hours of health care experiences required.

**FIGURE 5. HEALTH CARE EXPERIENCE REQUIREMENTS**




*Note: n = 235 responding programs*

*Programs were asked whether they required prospective students to have health care experience prior to entry into the graduate, professional phase of the program.*

**TABLE 63. TYPES OF HEALTH CARE EXPERIENCE REQUIREMENTS**

| | | Required | | Preferred | | Not required | |
|---|---|---|---|---|---|---|---|
| | *N* | *n* | % | *n* | % | *n* | % |
| Direct patient care (paid) | 152 | 64 | 42.1 | 71 | 46.7 | 17 | 11.2 |
| Direct patient care (volunteer) | 145 | 2 | 1.4 | 93 | 64.1 | 50 | 34.5 |
| Other health care (paid) | 144 | 6 | 4.2 | 35 | 24.3 | 103 | 71.5 |
| Other health care (volunteer) | 146 | 5 | 3.4 | 45 | 30.8 | 96 | 65.8 |
| Shadowing a PA | 148 | 43 | 29.1 | 75 | 50.7 | 30 | 20.3 |
| Shadowing another type of health care provider | 143 | 5 | 3.5 | 35 | 24.5 | 103 | 72.0 |
| Clinical and/or non-clinical research | 144 | 0 | 0.0 | 15 | 10.4 | 129 | 89.6 |
| Health care volunteering/community service | 149 | 56 | 37.6 | 62 | 41.6 | 31 | 20.8 |
| Non-health volunteering/community service | 144 | 6 | 4.2 | 64 | 44.4 | 74 | 51.4 |

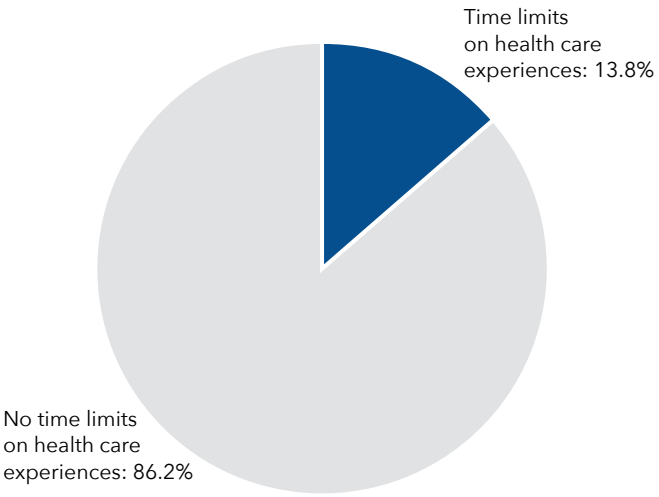
*Note: N refers to the total number of programs that reported the requirement status of each health care experience. n refers to the number of programs that reported a particular requirement status for each health care experience.*

**TABLE 64. MINIMUM NUMBER OF REQUIRED HEALTH CARE EXPERIENCE HOURS**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Direct patient care (paid) | 57 | 200.0–5,000.0 | 889.8 | 773.9 | 500.0 |
| Direct patient care (volunteer) | 42 | 80.0–2,000.0 | 506.0 | 420.9 | 500.0 |
| Other health care (volunteer) | 5 | 60.0–300.0 | 192.0 | 85.6 | 200.0 |
| Shadowing a PA | 34 | 1.0–100.0 | 24.9 | 18.8 | 20.0 |

*Note: Types of health care experiences for which fewer than 5 programs reported minimum required hours were excluded from this table. Zeroes were excluded prior to analysis.*

**FIGURE 6. TIME LIMITS ON HEALTH CARE EXPERIENCES**




*Note: n = 152 responding programs*

*Of the 152 programs that required students to have health care experience, 13.8% (n = 21) required that health care experiences be completed within a certain time limit. On average, these programs required that health care experiences occur within the past 5.1 years (range = 1.0–10.0 years, SD = 2.8, Mdn = 5.0).*

## Required Standardized Tests

This section refers to the following standardized tests using their abbreviations.

- GRE: Graduate Record Examinations
- IELTS: International English Language Testing System
- MCAT: Medical College Admission Test
- TOEFL: Test of English as a Foreign Language

**TABLE 65. STANDARDIZED TESTS REQUIRED FOR PRE-PROFESSIONAL ADMISSIONS**

| | *n* | % |
|---|---|---|
| SAT | 24 | 82.8 |
| ACT | 21 | 72.4 |
| TOEFL Internet-based Test (iBT) | 12 | 41.4 |
| TOEFL Paper-based Test (pBT) | 9 | 31.0 |
| IELTS | 5 | 17.2 |
| **Total** | **29** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple required standardized tests.*

*Programs with an undergraduate, pre-professional track (n = 39, 16.6%) were asked to indicate which standardized tests were required for entry. 9 of these programs (23.1%) reported having no required standardized tests for undergraduate, pre-professional admissions.*

**TABLE 66. MINIMUM SCORES FOR STANDARDIZED TESTS REQUIRED FOR PRE-PROFESSIONAL ADMISSIONS**

| | Possible Range | *n* | Observed Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|---|
| SAT | 400–1600 | 19 | 830.0–1400.0 | 1161.6 | 133.4 | 1170.0 |
| ACT | 1–36 | 17 | 17.0–27.0 | 24.7 | 2.7 | 25.0 |
| TOEFL Internet-based Test (iBT) | 0–120 | 11 | 79.0–114.0 | 90.9 | 13.1 | 83.0 |

*Note: TOEFL pBT and IELTS were excluded due to low responses. "Possible Range" refers to the full range of possible scores on each standardized test. "Observed Range" refers to the observed range of reported minimum test scores for each standardized test. Zeroes and reported scores that fell outside of the possible ranges for each exam were excluded prior to analysis.*

**TABLE 67. STANDARDIZED TESTS REQUIRED FOR GRADUATE, PROFESSIONAL PHASE ADMISSIONS**

| | *n* | % |
|---|---|---|
| TOEFL Internet-based Test (iBT) | 121 | 52.8 |
| GRE: Total (will not accept MCAT instead) | 87 | 38.0 |
| GRE: Verbal reasoning | 86 | 37.6 |
| GRE: Quantitative reasoning | 86 | 37.6 |
| GRE: Analytic writing | 73 | 31.9 |
| TOEFL Paper-based Test (pBT) | 63 | 27.5 |
| IELTS | 24 | 10.5 |
| GRE: Total (will accept MCAT instead) | 18 | 7.9 |
| ACT | 3 | 1.3 |
| SAT | 3 | 1.3 |
| Other | 11 | 4.8 |
| None | 23 | 10.0 |
| **Total** | **229** | – |

*Note: Percentages may sum to more than 100% because programs could select multiple required standardized tests.*

**TABLE 68. MINIMUM SCORES FOR STANDARDIZED TESTS REQUIRED FOR GRADUATE, PROFESSIONAL PHASE ADMISSIONS**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| TOEFL Internet-based Test (iBT) | 96 | 1.0–550.0 | 100.7 | 71.3 | 90.0 |
| GRE: Total (will not accept MCAT instead) | 24 | 280.0–302.0 | 296.1 | 5.9 | 300.0 |
| GRE: Verbal reasoning | 22 | 130.0–155.0 | 146.2 | 5.9 | 147.0 |
| GRE: Quantitative reasoning | 22 | 130.0–155.0 | 145.3 | 6.0 | 145.5 |
| GRE: Analytic writing | 20 | 1.0–4.2 | 3.4 | 0.7 | 3.5 |
| TOEFL Paper-based Test (pBT) | 32 | 550.0–650.0 | 570.2 | 28.8 | 550.0 |
| IELTS | 19 | 6.0–8.0 | 6.7 | 0.5 | 7.0 |

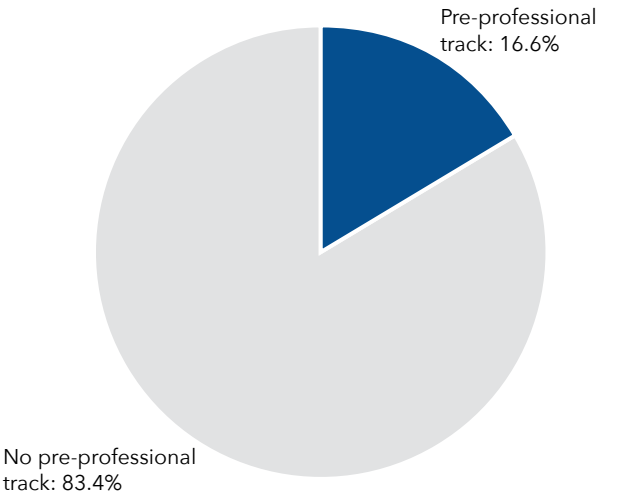
*Note: ACT, SAT, and total GRE scores among programs that accepted the MCAT instead were excluded due to low responses. Zeroes and reported scores that fell outside of the possible ranges for each exam were excluded prior to analysis.*

# SECTION 3: APPLICATIONS AND ADMISSIONS

## Types of Students Admitted

Programs reported on the types of students admitted and whether they had special preferences or pathways for specific groups of students.

**FIGURE 7. PROGRAMS WITH A PRE-PROFESSIONAL TRACK**




*Note: n = 235 responding programs*

*Among programs that had pre-professional tracks, 5 out of 38 responding programs (13.2%) reported that they only admitted students accepted as undergraduates into the pre-professional track into the graduate, professional track.*

**TABLE 69. PRE-PROFESSIONAL STUDENTS ADMITTED INTO THE GRADUATE, PROFESSIONAL PHASE**

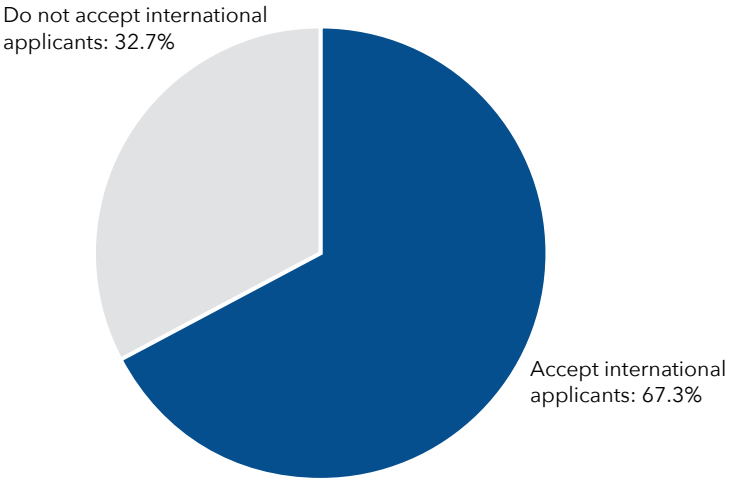
| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Number of pre-professional students admitted to graduate, professional phase | 39 | 0–67 | 20.4 | 18.5 | 15.0 |
| Number of pre-professional students not admitted to graduate, professional phase | 36 | 0–57 | 6.6 | 11.6 | 1.0 |
| Total size of pre-professional cohort | 39 | 1–72 | 26.5 | 21.9 | 20.0 |

*Among the 39 programs with pre-professional tracks, the average percentage of undergraduate, pre-professional students admitted to the graduate, professional phase was 74.5% (SD = 27.8, Mdn = 82.5).*

**FIGURE 8. PROGRAMS THAT ACCEPT TRANSFER STUDENTS FROM OTHER PA PROGRAMS**

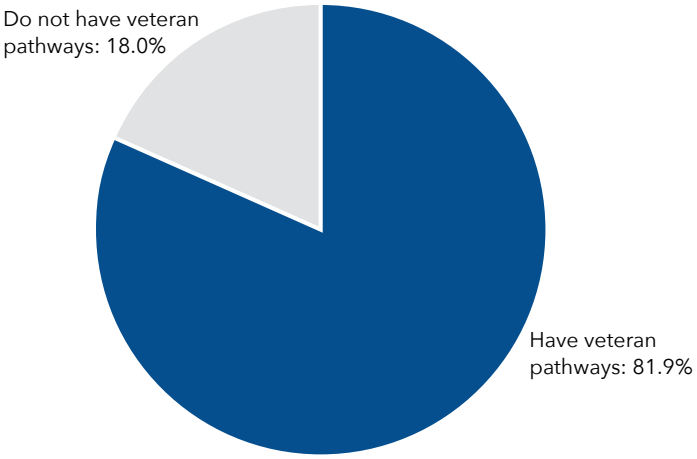

*Note: n = 223 responding programs*

**FIGURE 9. PROGRAMS THAT ACCEPT INTERNATIONAL APPLICANTS**




*Note: n = 208 responding programs*

**FIGURE 10. PROGRAMS WITH PATHWAYS OR SUPPORT SYSTEMS FOR VETERANS**



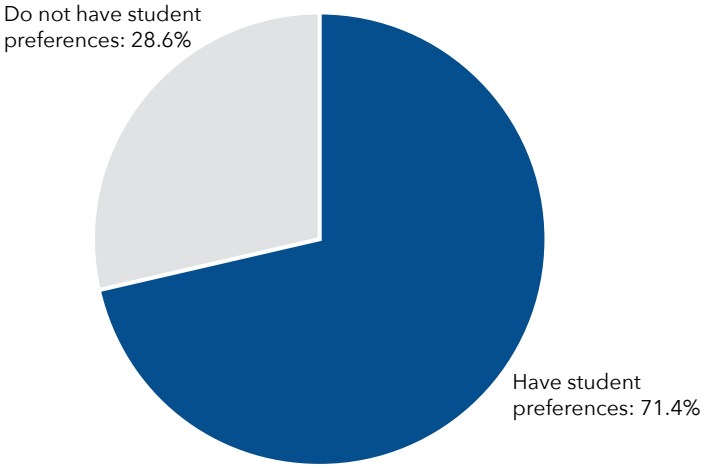

*Note: n = 188 responding programs*

**TABLE 70. AVAILABLE PATHWAYS OR SUPPORT SYSTEMS FOR VETERANS**

| | *n* | % |
|---|---|---|
| Yellow Ribbon program: Institutional participation in the Yellow Ribbon Schools program, a university-funded scholarship program for veterans | 81 | 52.6 |
| Special admission consideration: Processes that recognize military veterans | 70 | 45.5 |
| Veteran faculty: Faculty members who have veteran status | 66 | 42.9 |
| Clinical partnerships: Partnerships with veteran organizations for rotations | 57 | 37.0 |
| Veteran scholarships: Scholarship or financial assistance like reduced or in-state tuition | 35 | 22.7 |
| SOC member: Institutional participation in the Servicemembers Opportunity Colleges (SOC) programs, a consortium of colleges that recognizes the unique needs of veterans in achieving their educational goals. Many of these institutions offer special benefits such as tuition reduction or credit for experiential learning. | 12 | 7.8 |
| **Total** | **154** | - |

*Note: Percentages may sum to more than 100% because programs could select multiple types of pathways or support systems offered to veterans. This table only includes those programs that reported having a veteran pathway or support system.*

**FIGURE 11. PROGRAMS WITH PREFERENCES FOR SPECIFIC STUDENT CHARACTERISTICS**



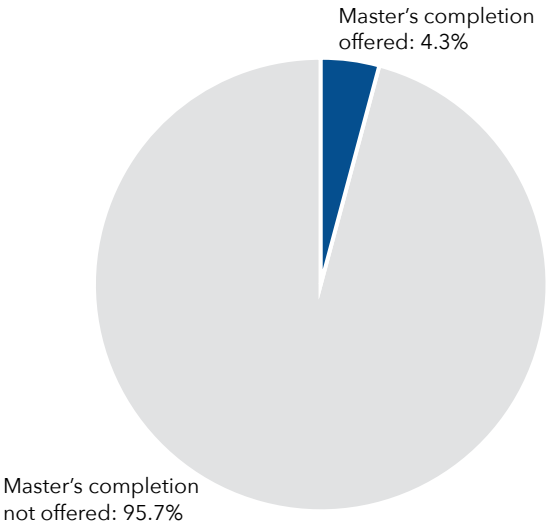

*Note: n = 231 responding programs*

**TABLE 71. PREFERENCES OR SPECIAL CONSIDERATION FOR SPECIFIC STUDENT CHARACTERISTICS**

| | *n* | % |
|---|---|---|
| Veteran preference | 76 | 49.0 |
| From an underserved area | 57 | 36.8 |
| Underrepresented minorities | 50 | 32.3 |
| Alumnus/Legacy preference | 46 | 29.7 |
| Economically disadvantaged | 44 | 28.4 |
| State residents | 43 | 27.7 |
| Deferrals from previous year | 38 | 24.5 |
| First-generation students | 37 | 23.9 |
| Articulation agreement with other colleges/ universities | 32 | 20.6 |
| Environmentally/Educationally disadvantaged | 32 | 20.6 |
| Rural | 31 | 20.0 |
| Local area students | 30 | 19.4 |
| Other | 38 | 24.5 |
| **Total** | **155** | **-** |

*Note: Percentages may sum to more than 100% because programs could select multiple types of preferences or special considerations. This table excludes those programs that did not report having preferences or special considerations for specific student characteristics. First-generation was not defined in the survey but typically refers to students who are the first generation in their family to attend college.*

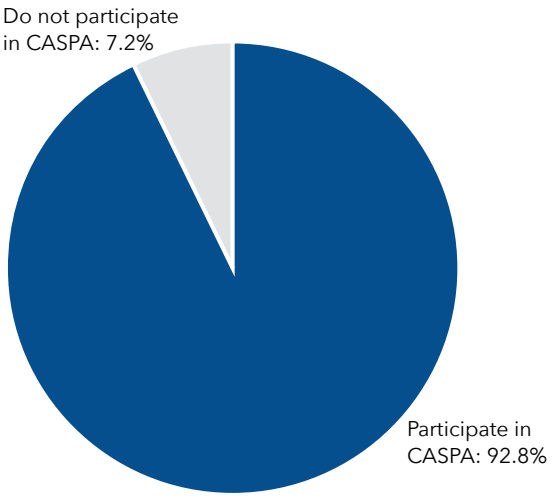
**FIGURE 12. MASTER'S COMPLETION FOR CURRENTLY PRACTICING PAs**




*Note: n = 232 responding programs*

## Application Materials

**FIGURE 13. CASPA PARTICIPATION**




*Note: n = 236 responding programs*

**TABLE 72. NARRATIVE OR PERSONAL STATEMENT REQUIREMENT**

| | *n* | % |
|---|---|---|
| Yes, a narrative/personal statement is required | | |
| Require CASPA's narrative/personal statement | 138 | 59.7 |
| Require both CASPA's narrative/personal statement and a supplemental statement | 76 | 32.9 |
| Do not use CASPA but do require a narrative/ personal statement | 10 | 4.3 |
| Subtotal | 224 | 97.0 |
| No, a narrative/personal statement is not required | 7 | 3.0 |
| **Total** | **231** | **100.0** |

**TABLE 73. MINIMUM NUMBER OF REQUIRED WRITTEN REFERENCES**

| | *n* | Range | *M* | *SD* | *Mdn* |
|---|---|---|---|---|---|
| Minimum required references | 229 | 1–4 | 2.8 | 0.4 | 3.0 |

*97.4% (n = 229) of responding programs required a minimum number of written references from prospective students.*

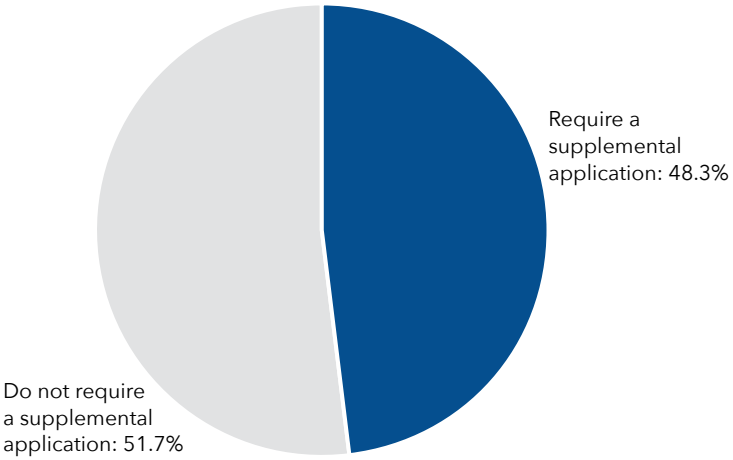
**TABLE 74. TYPES OF REFERENCES REQUIRED**

| | *n* | % |
|---|---|---|
| PA | 74 | 63.8 |
| Academic reference (e.g., teacher, professor) | 54 | 46.6 |
| Physician | 49 | 42.2 |
| Employer/Supervisor | 47 | 40.5 |
| Other health care provider | 39 | 33.6 |
| Other | 28 | 24.1 |
| **Total** | **116** | **-** |

*Note: "Other" write-ins that indicated a preference for type of reference but not a requirement were excluded. Percentages will sum to more than 100% because programs could select multiple types of required references.*

*An additional 106 programs (47.7% of all 222 responding programs) indicated that they had no restrictions on the types of references required.*

**FIGURE 14. SUPPLEMENTAL APPLICATION REQUIRED**



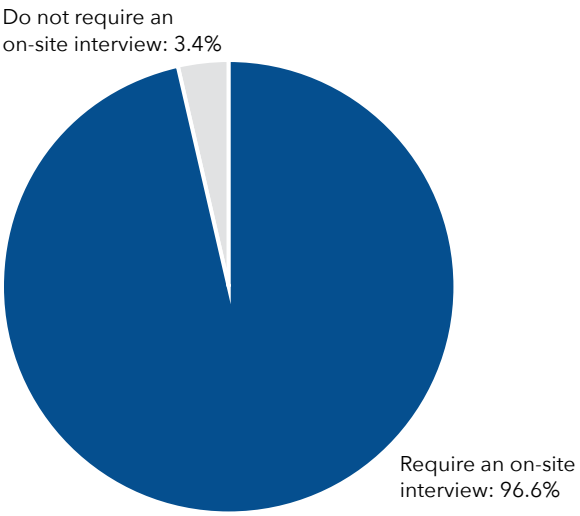

*Note: n = 236 responding programs*

**TABLE 75. SUPPLEMENTAL APPLICATION FEE ($)**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| Fee | 99 | 20.0–300.0 | 58.7 | 32.6 | 25.0 | 47.5 | 50.0 | 67.5 | 95.0 |

*Note: Zeroes were excluded prior to analysis.*

**FIGURE 15. ON-SITE INTERVIEW REQUIRED**




*Note: n = 234 responding programs*

**TABLE 76. REASONS FOR REQUIRING AN ON-SITE INTERVIEW**

| | *n* | % |
|---|---|---|
| Evaluate applicants' interpersonal and communication skills | 224 | 99.1 |
| Evaluate professionalism and behavioral issues | 213 | 94.2 |
| Assess whether applicants' goals align with the program's goals/mission | 188 | 83.2 |
| Help applicants in their decision to choose a program | 180 | 79.6 |
| Evaluate applicants' dedication to the PA career | 174 | 77.0 |
| Evaluate applicants' ability to work in teams | 143 | 63.3 |
| Other | 10 | 4.4 |
| **Total** | **226** | - |

*Note: Percentages will sum to more than 100% because programs could select more than one reason for requiring an on-site interview.*

**TABLE 77. ON-SITE INTERVIEW FORMAT**

| | *n* | % |
|---|---|---|
| Individual | 152 | 67.6 |
| Group/Team | 138 | 61.3 |
| Multiple, mini-individual interviews | 64 | 28.4 |
| Multiple, mini-group interviews | 17 | 7.6 |
| Other | 8 | 3.6 |
| **Total** | **225** | - |

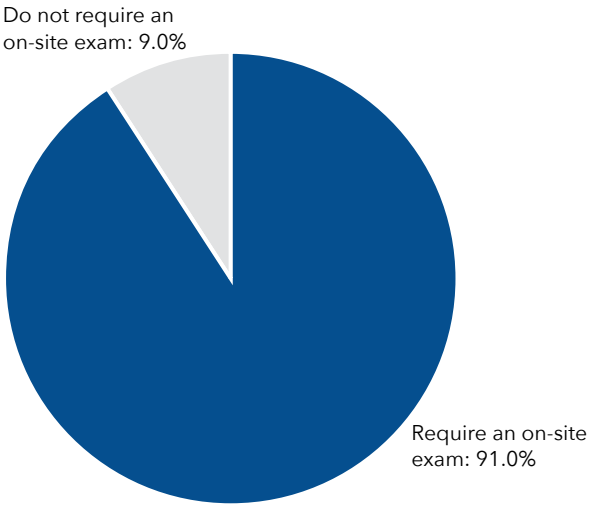
*Note: Percentages will sum to more than 100% because programs could select more than one format for their on-site interviews.*

**TABLE 78. PARTICIPANTS IN PROGRAMS' ON-SITE INTERVIEW PROCESS**

| | *n* | % |
|---|---|---|
| PA program faculty | 225 | 99.6 |
| Graduated students (alumni) | 120 | 53.1 |
| Current students | 115 | 50.9 |
| PA program staff | 113 | 50.0 |
| Preceptors | 110 | 48.7 |
| Faculty from outside the PA program | 109 | 48.2 |
| University administration | 59 | 26.1 |
| Community members | 52 | 23.0 |
| Other | | |
| Admissions advisers/staff | 5 | 2.2 |
| All other | 11 | 4.9 |
| **Total** | **226** | - |

*Note: Percentages will sum to more than 100% because programs could indicate more than one participant in their on-site interview process. Programs were not asked about "admissions advisers/staff"; this category was created based on programs' recoded "other" write-in responses.*

**FIGURE 16. ON-SITE EXAMS REQUIRED**



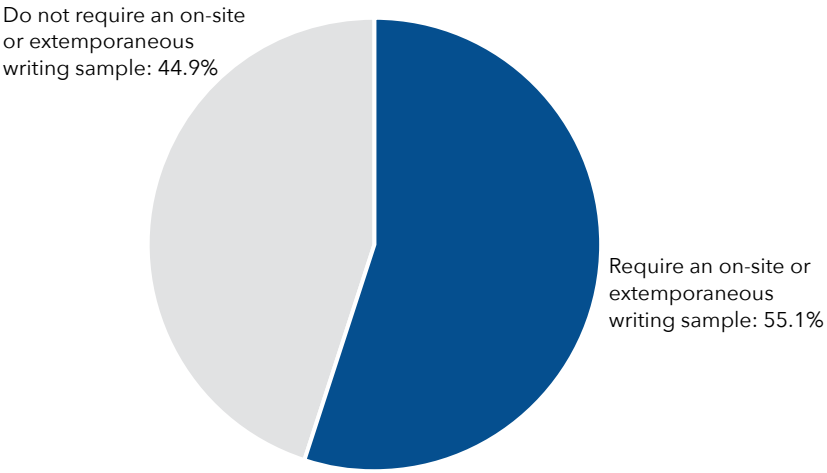

*Note: n = 223 responding programs*

**TABLE 79. TYPES OF ON-SITE EXAMS REQUIRED**

| | *n* | % |
|---|---|---|
| Basic science | 8 | 40.0 |
| Math skills | 2 | 10.0 |
| Other | | |
| Medical terminology | 6 | 30.0 |
| Writing/Composition | 4 | 20.0 |
| All other | 2 | 10.0 |
| **Total** | **20** | **-** |

*Note: Percentages will sum to more than 100% because programs could indicate more than one required on-site exam. Programs were not asked about "medical terminology" or "writing/composition" exams; these categories were created based on programs' recoded "other" write-in responses.*

**FIGURE 17. ON-SITE OR EXTEMPORANEOUS WRITING SAMPLE REQUIRED**



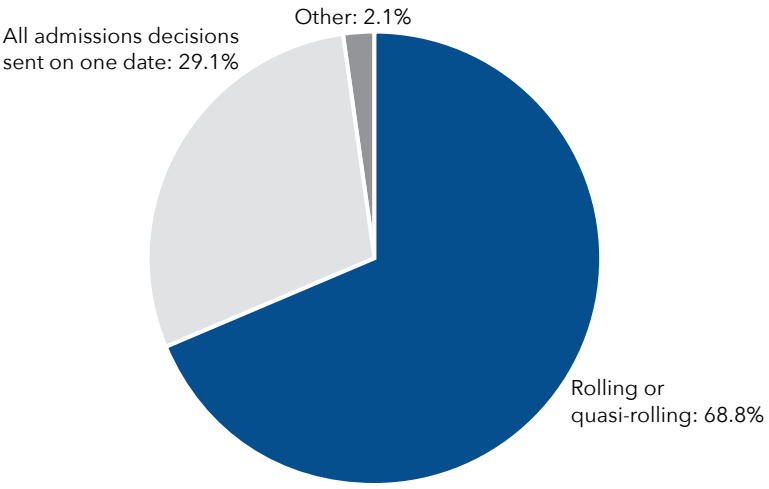

*Note: n = 225 responding programs*

**TABLE 80. USES FOR ON-SITE OR EXTEMPORANEOUS WRITING SAMPLE**

| | *n* | % |
|---|---|---|
| To evaluate communication skills | 89 | 71.8 |
| Scored as part of review of candidate | 83 | 66.9 |
| Comparison between on-the-spot writing and submitted writing sample | 45 | 36.3 |
| Not scored, but considered as part of review of candidate | 34 | 27.4 |
| Other | 4 | 3.2 |
| **Total** | **124** | **-** |

*Note: Percentages will sum to more than 100% because programs could indicate more than one use for prospective students' writing samples.*

**FIGURE 18. SCHEDULE OF ADMISSIONS DECISIONS**




*Note: n = 234 responding programs.*
*"Other" responses were recoded into existing categories when possible.*

**TABLE 81. APPLICANTS, ACCEPTANCES, AND MATRICULANTS, 2015–2018**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| **Applications received** | | | | | | | | | |
| 2015–2016 academic year | 183 | 30–3,005 | 985.1 | 634.6 | 296.8 | 487.0 | 841.0 | 1,400.0 | 1,898.8 |
| 2016–2017 academic year | 201 | 76–3,452 | 1,028.4 | 716.3 | 297.0 | 451.0 | 850.0 | 1,400.0 | 2,100.0 |
| 2017–2018 academic year | 218 | 33–4,786 | 1,078.6 | 791.0 | 291.9 | 478.5 | 871.0 | 1,514.2 | 2,160.3 |
| **Admission acceptance letters sent** | | | | | | | | | |
| 2015–2016 academic year | 174 | 2–200 | 66.3 | 36.9 | 32.0 | 44.0 | 55.5 | 77.5 | 113.4 |
| 2016–2017 academic year | 195 | 1–200 | 66.2 | 35.0 | 30.0 | 42.0 | 58.0 | 80.0 | 113.0 |
| 2017–2018 academic year | 210 | 6–210 | 65.5 | 35.8 | 33.0 | 41.0 | 57.0 | 75.8 | 113.1 |
| **Matriculants** | | | | | | | | | |
| 2015–2016 academic year | 191 | 2–185 | 46.4 | 22.9 | 25.0 | 30.0 | 40.0 | 55.0 | 75.0 |
| 2016–2017 academic year | 207 | 1–187 | 46.6 | 22.6 | 25.0 | 30.0 | 40.0 | 55.0 | 75.0 |
| 2017–2018 academic year | 218 | 9–208 | 46.9 | 23.1 | 25.7 | 30.0 | 40.5 | 56.0 | 75.0 |

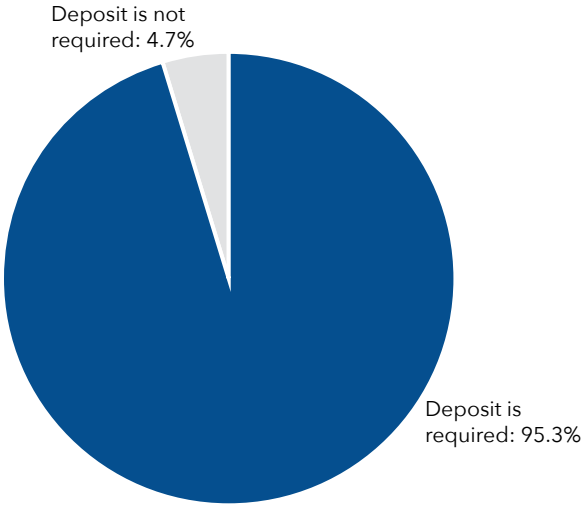
*Note: All data were self-reported by programs. Zeroes were excluded prior to analysis.*

**TABLE 82. ACCEPTANCE AND MATRICULATION RATES, 2015–2018 (%)**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| **Acceptance rates** | | | | | | | | | |
| 2015–2016 academic year | 172 | 0.2–100.0 | 10.2 | 12.2 | 3.2 | 4.5 | 7.1 | 11.0 | 19.6 |
| 2016–2017 academic year | 193 | 0.3–98.7 | 9.6 | 9.5 | 2.8 | 4.7 | 6.9 | 11.5 | 18.6 |
| 2017–2018 academic year | 208 | 0.5–96.2 | 9.7 | 11.0 | 2.6 | 4.0 | 6.6 | 11.6 | 19.4 |
| **Matriculation rates based on applications received** | | | | | | | | | |
| 2015–2016 academic year | 183 | 0.2–100.0 | 7.7 | 11.0 | 2.4 | 3.3 | 4.9 | 8.9 | 13.3 |
| 2016–2017 academic year | 201 | 0.3–98.7 | 7.0 | 8.1 | 2.3 | 3.1 | 5.0 | 9.0 | 12.4 |
| 2017–2018 academic year | 214 | 0.6–96.2 | 7.4 | 9.8 | 2.2 | 3.0 | 4.8 | 8.5 | 13.9 |
| **Matriculation rates based on acceptance letters sent** | | | | | | | | | |
| 2015–2016 academic year | 174 | 43.6–100.0 | 75.4 | 16.1 | 53.6 | 63.5 | 74.5 | 89.3 | 100.0 |
| 2016–2017 academic year | 195 | 30.8–100.0 | 74.7 | 15.6 | 55.7 | 63.0 | 73.2 | 85.7 | 100.0 |
| 2017–2018 academic year | 208 | 30.8–100.0 | 75.5 | 15.7 | 53.9 | 64.5 | 76.7 | 86.7 | 100.0 |

*__Acceptance rates__ were calculated by dividing programs' self-reported number of admission acceptance letters sent by the number of applications received for each academic year. __Matriculation rates based on applications received__ were calculated by dividing programs' self-reported number of matriculants by the number of applications received for each academic year. __Matriculation rates based on acceptance letters sent__ were calculated by dividing programs' self-reported number of matriculants by the number of admission acceptance letters sent for each academic year.*

**FIGURE 19. DEPOSIT REQUIRED TO SECURE SEAT**




*Note: n = 236 responding programs*

**TABLE 83. AMOUNT OF PROGRAM DEPOSIT REQUIRED TO SECURE SEAT ($)**

| | *n* | Range | *M* | *SD* | P10 | P25 | P50 (*Mdn*) | P75 | P90 |
|---|---|---|---|---|---|---|---|---|---|
| Deposit amount | 222 | 50–2,000 | 760 | 395 | 255 | 500 | 750 | 1,000 | 1,500 |

**TABLE 84. REFUNDABLE DEPOSITS**

| | *n* | % |
|---|---|---|
| No | 189 | 84.4 |
| Yes, for emergencies only | 12 | 5.4 |
| Yes, fully refundable | 8 | 3.6 |
| Yes, partially refundable | 5 | 2.2 |
| Other | 10 | 4.5 |
| **Total** | **224** | **100.0** |

# SECTION 4. CURRICULAR DESIGN

**TABLE 85. PROGRAM MISSION**

| | *n* | % |
|---|---|---|
| Primary care | 160 | 69.3 |
| Underserved | 98 | 42.4 |
| Generalist | 76 | 32.9 |
| Rural | 51 | 22.1 |
| Specialist | 2 | 0.9 |
| Other | 17 | 7.4 |
| No overall focus | 10 | 4.3 |
| **Total** | **231** | **-** |

*Note: Percentages will sum to more than 100% because programs could select multiple focuses of their mission.*

*Programs were asked to describe their curriculum's overall mission, based on their mission statements.*

**TABLE 86. CURRICULAR FOCUS**

| | *n* | % |
|---|---|---|
| Organ-based/Systems-based learning | 166 | 74.8 |
| Collaborative or team-based learning | 69 | 31.1 |
| Hybrid of traditional or case-based learning | 67 | 30.2 |
| Early clinical exposure | 65 | 29.3 |
| Problem-based learning | 64 | 28.8 |
| Case-based learning | 62 | 27.9 |
| Asynchronous learning | 19 | 8.6 |
| Other | 10 | 4.5 |
| No curricular focus | 28 | 12.6 |
| **Total** | **222** | **-** |

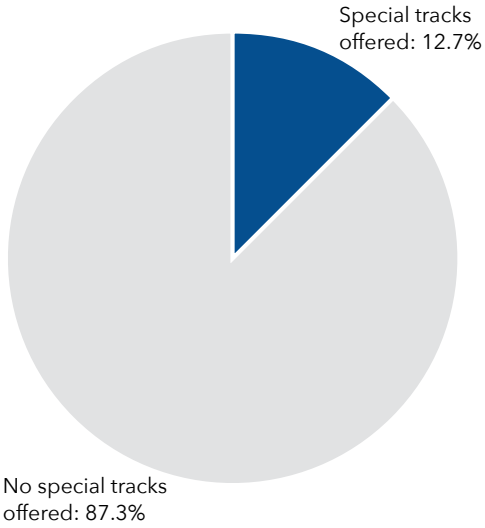
*Note: Percentages will sum to more than 100% because programs could select multiple curricular focuses.*

**TABLE 87. PEDAGOGICAL APPROACH**

| | *n* | % |
|---|---|---|
| Organ-based/Systems-based learning | 154 | 69.7 |
| Collaborative or team-based learning | 96 | 43.4 |
| Case-based learning | 91 | 41.2 |
| Hybrid of traditional or case-based learning | 80 | 36.2 |
| Problem-based learning | 79 | 35.7 |
| Early clinical exposure | 69 | 31.2 |
| Asynchronous learning | 27 | 12.2 |
| Other | 11 | 5.0 |
| No specific pedagogical approach | 27 | 12.2 |
| **Total** | **221** | – |

*Note: Percentages will sum to more than 100% because programs could select multiple pedagogical approaches.*

**FIGURE 20. SPECIAL TRACKS OFFERED**




*Note: n = 229 responding programs*

*Of 26 programs that provided specifics regarding special tracks offered, 8 (30.8%) reported having a rural track and 7 (26.9%) reported having an underserved track. Programs could describe multiple special tracks.*

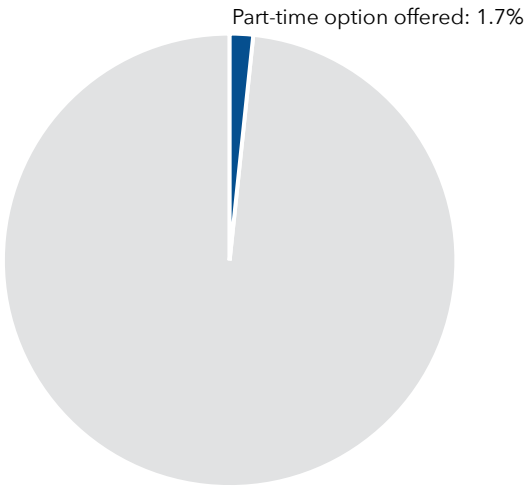
**TABLE 88. FORMULA FOR CONVERTING CLOCK HOURS TO CREDIT HOURS: LECTURE INSTRUCTION**

| | *n* | % |
|---|---|---|
| 1 credit = 15 clock/contact hours | 108 | 47.4 |
| 1 credit = 16 clock/contact hours | 21 | 9.2 |
| 1 credit = 10 clock/contact hours | 17 | 7.5 |
| 1 credit = 14 clock/contact hours | 14 | 6.1 |
| 1 credit = 12 clock/contact hours | 13 | 5.7 |
| Other formula | 17 | 7.5 |
| No formula | 38 | 16.7 |
| **Total** | **228** | **100.0** |

**TABLE 89. FORMULA FOR CONVERTING CLOCK HOURS TO CREDIT HOURS: LABORATORY INSTRUCTION**

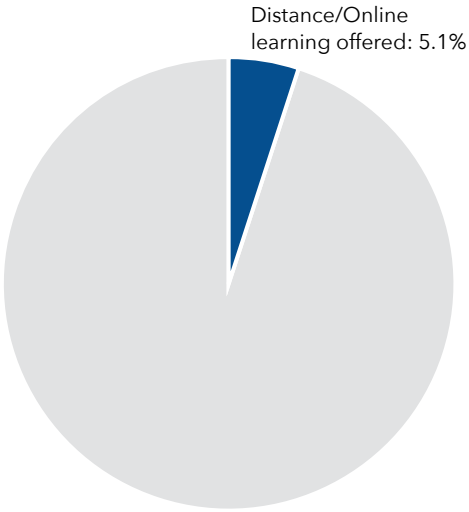
| | *n* | % |
|---|---|---|
| 1 credit = 30 clock/contact hours | 44 | 19.4 |
| 1 credit = 15 clock/contact hours | 28 | 12.3 |
| 1 credit = 45 clock/contact hours | 28 | 12.3 |
| 1 credit = 20 clock/contact hours | 13 | 5.7 |
| 1 credit = 8 clock/contact hours | 8 | 3.5 |
| 1 credit = 32 clock/contact hours | 7 | 3.1 |
| 1 credit = 24 clock/contact hours | 5 | 2.2 |
| 1 credit = 12 clock/contact hours | 4 | 1.8 |
| 1 credit = 16 clock/contact hours | 3 | 1.3 |
| 1 credit = 36 clock/contact hours | 3 | 1.3 |
| 1 credit = 25 clock/contact hours | 1 | 0.4 |
| Other formula | 21 | 9.3 |
| No formula | 62 | 27.3 |
| **Total** | **227** | **100.0** |

**FIGURE 21. PART-TIME OPTION OFFERED**




*Note: n = 235 responding programs*

**FIGURE 22. DISTANCE OR ONLINE LEARNING OPPORTUNITIES OFFERED**




*Note: n = 234 responding programs*