Nebraska Career Scholarships Guidelines

Nebraska Career Scholarships Program is a collaboration between the Nebraska Department of Economic Development (DED) and Nebraska community colleges. This program will provide scholarships to students pursuing degrees in programs of study leading to high wage, high skill and high demand careers.

"Connecting the next generation of Nebraskans to great opportunities in our state is key to helping our kids make Nebraska their home. These scholarships will help to equip young Nebraskans to enter careers in fields with high-demand for new talent, such as engineering, healthcare, and IT. This adds to the pipeline we've been building to connect young Nebraskans with great-paying careers so that they can enjoy the Good Life. Now, students will also have the opportunity to apply for a Career Scholarship as they prepare for to enter fields where our state has a workforce shortage."   - Governor Pete Ricketts

Contents:
1. Department of Economic Development (DED) Legislative Authority
2. Grant Period and Cohorts
    a. Grant Periods
    b. Cohorts
    c. FY2020-21 Aid Grant Period, Cohort and Reporting
3. Aid Distribution
    a. Aid Available
    b. Distribution Formula
    c. Aid Distribution
    d. Unused Aid
    e. Repayment of Aid
4. Scholarship Amounts
    a. Maximum Amounts
    b. Other Awards
    c. Term Distribution
    d. Maximum Scholarship Length
5. Scholarship Distribution
    a. Awarding Framework
    b. Disbursements
6. Eligible Uses of Scholarships
    a. Eligible Uses of Scholarships
7. Eligible Programs
    a. Determining Eligible Programs
    b. Identified Occupations (Shortage Areas and Skilled Trades)
8. Eligible Scholarship Recipients
    a. Eligible Scholarship Recipients
    b. Eligible Scholarship Recipients for Initial Award
9. Ongoing Scholarship Recipient Eligibility
    a. Renewable
    b. Career-Related Work Experience
    c. Major Changes
    d. Dropouts and Stopouts
    e. Transfer Students
10. Reporting
    a. Use and Tracking of Cohorts
    b. Mid-Year Status Update Requirements
    c. Scholarship Recipient Data Requirements
    d. Legislative Report
APPENDIX A. Identified Shortage Area and Skilled Trade Occupations
APPENDIX B. Program Codes and Titles Corresponding with Identified Shortage Areas and Skilled Trade Occupations

1. Department of Economic Development (DED) Legislative Authority

    a. As described in [Legislative Bill 1008 (2020)](#) and [Legislative Bill 380 (2021)](#), DED is directed to:
        i. Allocate the General Funds among Nebraska community colleges
        ii. Determine which programs of study are within identified shortage areas or skilled trades that meet the workforce needs of the State of Nebraska
        iii. Report information to the Clerk of the Legislature and the Governor each year

    b. The Nebraska community colleges are directed to:
        i. Determine eligibility of scholarship recipients
        ii. Receive and process applications for awards to individual scholarship recipients
        iii. Disperse awards directly to eligible scholarship recipients during the fiscal year
        iv. Collect information on each scholarship recipient and report to DED

2. Eligible Institutions

    a. Nebraska community colleges are eligible for Career Scholarships aid under these guidelines. Specifically, Central Community College, Little Priest Tribal College, Metropolitan Community College, Mid-Plains Community College, Nebraska Indian Community College, Northeast Community College, Southeast Community College and Western Nebraska Community College are eligible institutions.

3. Aid Distribution

    a. Aid Available
    Appropriation for this program in FY2020-21 is $1,000,000; appropriation in FY2021-22 is $2,000,000.

    b. Distribution Formula
    DED will disburse aid to Central Community College, Little Priest Tribal College, Metropolitan Community College, Mid-Plains Community College, Northeast Community College, Southeast Community College and Western Nebraska Community College as follows. Nebraska Indian Community College elected not to participate in the aid available in 2020 or 2021.

    In FY2020-21, $10,000 will be disbursed to the participating Tribal College and $25,000 will be disbursed to the remaining community colleges. This portion totals $160,000 of the $1,000,000 available in aid. The remaining $840,000 in available aid will be divided based on each community college area's proportionate share of three-year average reimbursable education units (REU), according to the Coordinating Commission for Postsecondary Education.

FY2020-21 Aid

	Three-year Average REU*	% Distribution	Aid Awarded Based on REUs (Rounded)	Aid Awarded Equally	Total Aid Awarded Based on REUs and Equally
Central Community College Area	4,864.11	14.08%	$118,300.00	$25,000.00	$143,300.00
Little Priest Tribal College	48.97	0.14%	$1,200.00	$10,000.00	$11,200.00

Metropolitan Community College Area	12,627.09	36.56%	$307,100.00	$25,000.00	$332,100.00
Mid Plains Community College Area	1,775.34	5.14%	$43,200.00	$25,000.00	$68,200.00
Northeast Community College Area	4,004.05	11.59%	$97,400.00	$25,000.00	$122,400.00
Southeast Community College Area	9,310.97	26.96%	$226,500.00	$25,000.00	$251,500.00
Western Community College Area	1,906.07	5.52%	$46,400.00	$25,000.00	$71,400.00
Total	34,536.60	100%	$840,000.00	$160,000.00	$1,000,000.00

*Reimbursable education units (REU) are certified and reported by the Coordinating Commission for Postsecondary Education for FY20, FY19 and FY18. A share of three-year average REU is not available for tribally controlled colleges. This distribution is based on the certified and reported FY20 REU share.

In FY2021-22, $20,000 will be disbursed to the participating Tribal College and $50,000 will be disbursed to the remaining community colleges. This portion totals $320,000 of the $2,000,000 available in aid. The remaining $1,680,000 in available aid will be divided based on each community college area's proportionate share of three-year average reimbursable education units (REU), according to the Coordinating Commission for Postsecondary Education.

FY2021-22 Aid

	Three-year Average REU*	% Distribution	Aid Awarded Based on REUs (Rounded)	Aid Awarded Equally	Total Aid Awarded Based on REUs and Equally
Central Community College Area	4,864.11	14.08%	$236,600.00	$50,000.00	$286,600.00
Little Priest Tribal College	48.97	0.14%	$2,400.00	$20,000.00	$22,400.00
Metropolitan Community College Area	12,627.09	36.56%	$614,200.00	$50,000.00	$664,200.00
Mid Plains Community College Area	1,775.34	5.14%	$86,400.00	$50,000.00	$136,400.00
Northeast Community College Area	4,004.05	11.59%	$194,800.00	$50,000.00	$244,800.00
Southeast Community College Area	9,310.97	26.96%	$452,900.00	$50,000.00	$502,900.00
Western Community College Area	1,906.07	5.52%	$92,700.00	$50,000.00	$142,700.00
Total	34,536.60	100%	$1,680,000.00	$320,000.00	$2,000,000.00

*Reimbursable education units (REU) are certified and reported by the Coordinating Commission for Postsecondary Education for FY20, FY19 and FY18. A share of three-year average REU is not available for tribally controlled colleges. This distribution is based on the certified and reported FY20 REU share.

Future aid amounts may differ year to year. The department may take additional factors into consideration when determining distributions. This may include utilization of aid; retention rates; on time completion rates; and career-related experience (e.g. internship, apprenticeship, clinical position, or major-related field of employment) participation rates.

c. Aid Distribution
Aid distribution will typically occur within the first week of August and first week of January. This may be adjusted as deemed necessary by DED and will be communicated in advance to the aid recipients.

d. Unused Aid
Effort should be made to award each fiscal year's aid as scholarships by June 30 each year. If the distributed aid is not awarded as scholarships to eligible scholarship recipients by June 30, a portion of the aid may be retained and awarded as scholarships in the following fiscal year, as approved by DED. A

request must be made by the college to DED for such approval. Any such award of retained aid will be subject to funds availability and spending authority.

   e. Repayment of Aid
If the colleges or scholarship recipients are not compliant with the requirements described in these guidelines, the college may be subject, as requested by DED, to return a portion of the distributed scholarships as a penalty. As deemed appropriate by the college, the college may require an individual student who does not comply with the scholarship requirements to return a portion of their scholarship to the college.

4. Grant Periods and Cohorts

   a. Grant Periods
The grant periods for appropriated aid includes academic terms (i.e. semesters or quarters) that begin between August 1st and July 31st of the following year.

   b. Cohorts
Students who enrolled for the first time during the grant period will be grouped together as a cohort and each cohort will be numbered sequentially. Colleges will need to be able to distinguish between the cohort's scholarship recipients (students who received a first scholarship during the grant period) and non-scholarship recipients. Colleges will also need to be able to distinguish between the cohort's first-time students and transfer students (even for non-scholarship recipients). Additionally, colleges will need to be able to distinguish the term within the grant period in which the student first enrolled.

Reporting for each grant period will include information on the current cohort of scholarship recipients and non-scholarship recipients as well as information on every prior cohort of scholarship recipients and non-scholarship recipients.

   c. FY2020-21 Aid Grant Period, Cohort and Reporting:
     i. Grant Period = academic terms beginning between August 1, 2020 and July 31, 2021 (although scholarships may not be awarded prior to January 1, 2021)
     ii. Cohort 1 = students who enrolled for the first time in terms beginning between August 1, 2020 and July 31, 2021
     iii. Cohort 1 Scholarship Recipients = students who received a first scholarship for a term beginning between August 1, 2020 and July 31, 2021.
     iv. Mid-Year Status Update = not required in 2021, though future reports will be due on March 1 each year.
     v. Student Scholarship Recipient & Legislative Report = due November 1, 2021

5. Scholarship Amounts

   a. Maximum Amounts
A scholarship award shall not exceed $5,000 per year. Financial need, as determined by FAFSA, may be considered.

   b. Other Awards
This scholarship can be combined with other awards.

c. Term Distribution
Colleges should try to distribute scholarships in near-equal amounts between terms. Scholarships for non-credit programs that take place across multiple terms may be paid all up front.

d. Maximum Scholarship Length
Participation in the program is capped at a maximum of three (3) years.

6. Scholarship Distribution

   a. Awarding Framework
   Each college will use existing scholarship awarding structures as a framework for awarding scholarships.

   b. Disbursements
   Disbursements of scholarship funds will be made by the college via awards directly to eligible scholarship recipients' accounts during the fiscal year.

7. Eligible Uses of Scholarships

   a. Eligible Uses of Scholarships
   - Tuition
   - Fees
   - Required tools and equipment (including books)
   - Room
   - Board

8. Eligible Programs of Study

   a. Determining Eligible Programs
   Career Scholarships are awarded to eligible scholarship recipients enrolled in a program of study in identified shortage areas or skilled trades that meet the workforce needs of the State of Nebraska. The program of study must provide a recognizable credential and regularly lead to a job within the identified occupations.

   b. Identified Occupations (Shortage Areas and Skilled Trades)
   Identified occupations include those determined to be a shortage area or in-demand skilled trade related to the shortage areas. Shortage areas are defined within the Labor Availability Studies and Skills Gap Reports produced by the University of Nebraska-Lincoln Bureau of Business Research and the Nebraska Department of Labor. The reports identify misalignment between the area labor supply and demand and the future impact of those misalignments (or skills gaps) by using the number of recent graduates and occupational forecasts. Essentially, the reports identify jobs (occupations) for which there is more demand from employers than available workers. Related in-demand skilled trades were also identified and included in the list of occupations.

   Identified occupations fall within the following categories:
   i. Business, Financial & Administrative Operations

    ii.   Computer & Technology Assistance
   iii.   Architecture & Engineering
   iv.   Healthcare Practitioners & Technical
    v.   Farming, Fishing, & Forestry
   vi.   Construction & Extraction
  vii.   Installation, Maintenance, & Repair
 viii.   Production
   ix.   Transportation & Material Moving

Please refer to Appendix A for a list of the specific occupations within these categories, including 94 identified occupations. Please refer to Appendix B for a list of 303 programs titles that correspond to the identified occupations.

More information on the 2018 Standard Occupation Classification (SOC) occupations can be found on the Bureau of Labor Statistics website at https://www.bls.gov/soc/2018/major_groups.htm. More information on the 2020 Classification of Instructional Programs (CIP) and the crosswalk from 2018 SOC to 2020 CIP can be found on the National Center for Education Statistics website at https://nces.ed.gov/ipeds/cipcode/default.aspx?y=56.

9. Eligible Scholarship Recipients

   a. Eligible Scholarship Recipients
   Scholarship recipients must live in Nebraska while receiving a scholarship (but may be recruited from outside of Nebraska). Scholarship recipients are awarded Career Scholarships based on their enrollment in an eligible program of study. Scholarship recipients may select another major and retain the scholarship award as long as the new program of study is an eligible program of study as defined in these guidelines. Scholarships cannot be awarded to students prior to January 1, 2021.

   b. Eligible Scholarship Recipients for Initial Award
   To be eligible, the scholarship recipient must be a first-time student enrolling in the community college or a transfer student.
      i. First-Time Student
      First-time students are defined as individuals who are enrolling in a for-credit program of study or a non-credit workforce training program who have not been previously enrolled in a post-secondary institution in the past three years and have not previously earned a post-secondary credential.

      ii. Transfer Students
      Transfer students are individuals who have one or more college credits, who have not previously earned a post-secondary credential, and who have transferred their enrollment from one or more institutions of higher education to the participating community college with continuous enrollment.

   Additional eligibility for first-time students:
   - Prior participation in high school dual credit courses does not count as previous enrollment at a postsecondary institution.
   - Students who enroll in a fall term and enrolled in college for the first time in the prior summer term are eligible.

- Students who enroll in a preprogram for a selective admission eligible program are eligible for a scholarship in their first year; subsequent scholarships should only be awarded if the student is accepted into the eligible program of study.
- Students who have a future matriculation record for a limited enrollment eligible program are eligible for a scholarship in their first year; subsequent scholarships should only be awarded if the student is accepted into the eligible program of study.

Colleges may identify additional criteria for eligible scholarship recipients.

10. Ongoing Scholarship Recipient Eligibility

    a. Renewable
    The Career Scholarship is automatically renewable if the scholarship recipient continues to meet eligibility requirements of the scholarship and remains eligible to enroll. To maintain ongoing eligibility in the program, scholarship recipients must maintain satisfactory academic standing, as defined in the college's published Standards of Progress.

    To maintain eligibility, scholarship recipients must maintain an adequate enrollment pace that will enable completion of the program of study within three years, in accordance with their educational plan.

    Students who received a scholarship by enrolling in a preprogram for a selective admission eligible program may only receive a subsequent scholarship if the student is accepted into the eligible program of study.

    Students who received a scholarship by enrolling with a future matriculation record for a limited enrollment eligible program may only receive a subsequent scholarship if the student is accepted into the eligible program of study.

    Colleges may identify additional criteria for the ongoing eligibility of scholarship recipients.

    b. Career-Related Work Experience
    Every scholarship recipient must register with the appropriate Career or Employment Services office at each college and participate in a Nebraska-based internship, apprenticeship, clinical position, or employment in the field of study prior to their final term of the program of study. In order to receive disbursement of the scholarship for the final term, the scholarship recipient must have participated a career-related work experience. Colleges will document career-related work experiences for each scholarship recipient.

    c. Major Changes
    Scholarship recipients who change their major to one not included as an eligible program of study will no longer receive the scholarship beginning the following term.

    d. Dropouts and Stopouts
    Scholarship recipients who withdraw their enrollment in the college and/or an eligible program of study will no longer receive the scholarship beginning the following term. While this is not required by DED, as deemed appropriate by the college, the college may require scholarship recipients who dropout or stopout to return a portion of their scholarship to the college.

e. Transfer Students
Scholarship recipients are awarded Career Scholarships by an individual community college. Transfer students between Nebraska colleges who were awarded a scholarship at the original college may receive a scholarship from the incoming college, at the discretion of the incoming college, and must follow the incoming college's scholarship application process.

11. Reporting

a. Use and Tracking of Cohorts
Reporting requires colleges to distinguish between each cohort's scholarship recipients (students who received a first scholarship during the grant period) and non-scholarship recipients. Colleges will also need to be able to distinguish between the cohort's first-time students and transfer students (even for non-scholarship recipients). Additionally, colleges will need to be able to distinguish the term within the grant period in which the student first enrolled. Reporting for each grant period will include information on the current cohort of scholarship recipients and non-scholarship recipients as well as information on every prior cohort of scholarship recipients and non-scholarship recipients.

b. Mid-Year Status Update Requirements
A mid-year status update by the colleges is due to DED by March 1 each year (and is not applicable in March 2021). This status update will contain tentative information. Information required in this report includes:
    i. Number of students who received a scholarship and total scholarship amount awarded to new recipients (including first-time students and transfer students) during the terms beginning August 1 through December 31
    ii. Number of students who received a scholarship and total scholarship amount awarded to recipients of ongoing scholarship aid during the terms beginning August 1 through December 31

c. Scholarship Recipient Data Requirements
A report by the colleges on each cohort's scholarship recipients is due to DED November 1 each year using the spreadsheets provided by DED. This report will include the following information on each scholarship recipient: name; address; email address; social security number; program of study; program of study category; program of study credit status; the certificate/diploma/degree awarded; how the student met initial eligibility; date of program completion; whether they completed the program on time; a short description of their career-related work experience; their enrollment status and scholarship amounts per term; and year 2 enrollment and scholarship status. The college must also retain this information for a minimum of five years after the scholarship recipient completes the program.

DED may collaborate with the Nebraska Department of Labor to track scholarship recipient employment in Nebraska. In all cases, DED will not share sensitive personally identifiable information and reporting will be provided in aggregate form.

d. Legislative Report
LB1008 requires the following information be reported to DED, which will in turn be submitted to the Clerk of the Legislature and Governor by December 1 of each year. The report will include information on each cohort, using the provided spreadsheets, and is due to DED by November 1 each year.

The report includes metrics tracked by program and/or in aggregate. When reported by program, data should be reported within the occupational categories of:

i. Business, Financial & Administrative Operations
ii. Computer & Technology Assistance
iii. Architecture & Engineering
iv. Healthcare Practitioners & Technical
v. Farming, Fishing, & Forestry
vi. Construction & Extraction
vii. Installation, Maintenance, & Repair
viii. Production
ix. Transportation & Material Moving

Additionally, the report separates data by credential type, including certificate programs, diploma programs and degree programs.

Unless otherwise specified, scholarship recipients refers to first-time students and transfer students enrolled in both for-credit and non-credit programs and in certificate, diploma and degree programs.

i. **Legislative Requirement 1:** Total number of students enrolled in each eligible program of study in the prior academic year and such program's enrollment as of census date each year thereafter.

   Reporting notes:
   o Enrollment reflects total program enrollment, regardless of individual student scholarship eligibility.
   o Enrollment could be duplicated headcount if a student is enrolled in more than one program category.
   o Enrollment in for-credit programs includes number of students enrolled on October 15; enrollment in non-credit programs includes total students enrolled in programs that began within the fall term's beginning and end dates.
   o This data will be reported by program category and credential type in Career Scholarships - Enrollment Reporting.xlsx.

   Specific data required includes:
   • The number of students enrolled on October 15, 2019
   • The number of students enrolled on October 15, 2020
   • The number of students enrolled on October 15, 2021

ii. **Legislative Requirement 2:** The number of scholarship recipients in each program.

   Reporting notes:
   o Count of scholarship recipients should be deduplicated across terms and programs of study (if a scholarship recipient is enrolled in more than one program of study a primary program of study should be identified).
   o This data will be reported by program category and credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report A tab.

   Specific data required includes:
   • The number of scholarship recipients

iii. **Legislative Requirement 3:** The total number of first-time freshman scholarship recipients retained in year two and a comparison of the retention rate of first-time freshman scholarship recipients to the overall retention rate for first time freshmen.

Reporting notes:
o Count and rates do not include transfer students.
o A scholarship recipient who is enrolled in an eligible program, even if the student changed their program of study, as of the census date of the first term of the following their cohort's grant period is considered retained.
o This data will be reported by credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report B tab.

Specific data required includes:
- The number of first-time student scholarship recipients retained
- The retention rate of first-time student scholarship recipients
- The retention rate of all first-time students (including scholarship recipients and non-scholarship recipients)
- The difference in the retention rate of first-time student scholarship recipients and the retention rate of all first-time students (including scholarship recipients and non-scholarship recipients)

iv. **Legislative Requirement 4:** The total number of first-time freshman scholarship recipient completers (certificates, diplomas, degrees) and a comparison of the on time award completion rate of scholarship recipients to the overall on time completion rate for all first-time freshman students.

Reporting notes:
o On-time completion for this report means full-time and part-time students completing a for-credit program of study within 150% of normal time and/or completion of a non-credit certification.
o Only include students who are, or were, enrolled in programs that have reached the on-time completion definition above. For example, on-time completion for students seeking a degree is 6 semesters; those students/programs should not be included in the first or second report for that cohort as not enough time has elapsed for 6 semesters to have completed.
o The on-time completion rate should be calculated as the cohort's on-time completers divided by all students in the cohort (including students who drop out or stop out).
o Data includes only first-time students; it does not include transfer student.
o This data will be reported by credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report B tab.

Specific data required includes:
- The number of first-time student scholarship recipients that have completed their eligible program of study
- The rate of first-time student scholarship recipients who completed their eligible program of study on time, out of all first-time student scholarship recipients who began their eligible program in the same term
- The rate of first-time students (including scholarship recipients and non-scholarship recipients) who completed their eligible program of study on time, out of all first-time student scholarship recipients who began their eligible program of in the same term

- The difference in the on-time completion rate of first-time student scholarship recipients and the on-time completion rate of all first-time students (including scholarship recipients and non-scholarship recipients)

v. **Legislative Requirement 5:** The number of scholarship recipients obtaining jobs in Nebraska within five quarters of completing the program of study using Department of Labor data.

Reporting notes:
o Data should include scholarship recipients who obtained a job in Nebraska within five quarters after the quarter in which they completed their program of study or as of September 30 each year, whichever is sooner.
o Due to the timing of the report, this may not include all program completers where five quarters after the quarter in which they completed the program of study have not passed.
o This data will be reported by credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report B tab.

Specific data required includes:
- The number of all scholarship recipients who completed an eligible program of study and obtained a job in Nebraska within five quarters after the quarter in which they completed their program of study.

vi. **Legislative Requirement 6:** The average salary of scholarship recipients, as determined by the Department of Labor, for the fifth quarter following program of study completion.

Reporting notes:
o Data should include scholarship recipients who completed their program of study and five quarters have passed after the quarter in which they completed their program of study by September 30.
o Due to the timing of the report, this may not include the salaries of all program completers where five quarters after the quarter in which they completed the program of study have not passed by September 30.
o This data will be reported by credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report B tab.

Specific data required includes:
- The average salary for the fifth quarter following the quarter in which the student completed their program of study for all scholarship recipients.

vii. **Legislative Requirement 7:** The number of students in each program of study participating in an internship, apprenticeship, clinical position, or major-related field of employment during enrollment and comparing participation rates for scholarship and non-scholarship recipients.

Reporting notes:
o Data should include first-time students and transfer students for both scholarship recipients and non-scholarship recipients.
o This data will be reported by program category and credential type for each Cohort in Career Scholarships – Cohort # YEAR Report.xlsx, Report A tab.

Specific data required includes:
- The number of scholarship recipients who participated in a career-related work experience
- The rate of scholarship recipients who participated in a career-related work experience

- The rate of non-scholarship recipients that participated in a career-related work experience
- The difference in the career-related work experience participation rate of scholarship recipients and of non-scholarship recipients

APPENDIX A. Identified Shortage Area and Skilled Trade Occupations

Business, Financial & Administrative Operations Occupations

SOC code	Description
13-1031	Claims Adjusters, Examiners, and Investigators
13-1051	Cost Estimators
13-1111	Management Analysts
13-2011	Accountants and Auditors
13-2072	Loan Officers
43-3011	Bill and Account Collectors
43-3031	Bookkeeping, Accounting, and Auditing Clerks

Computer & Technology Assistance Occupations

SOC code	Description
15-1221	Computer and Information Research Scientists
15-1231	Computer Network Support Specialists
15-1232	Computer User Support Specialists
15-1251	Computer Programmers
15-1252	Software Developers
15-1253	Software Quality Assurance Analysts and Testers
15-1254	Web Developers
15-1255	Web and Digital Interface Designers
15-1299	Computer Occupations, All Other

Architecture & Engineering Occupations

SOC code	Description
17-3011	Architectural and Civil Drafters
17-3012	Electrical and Electronics Drafters
17-3013	Mechanical Drafters
17-3019	Drafters, All Other
17-3021	Aerospace Engineering and Operations Technologists and Technicians
17-3022	Civil Engineering Technologists and Technicians
17-3023	Electrical and Electronic Engineering Technologists and Technicians
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians
17-3025	Environmental Engineering Technologists and Technicians
17-3026	Industrial Engineering Technologists and Technicians
17-3027	Mechanical Engineering Technologists and Technicians
17-3028	Calibration Technologists and Technicians
17-3029	Engineering Technologists and Technicians, Except Drafters, All Other
17-3031	Surveying and Mapping Technicians

Healthcare Practitioners & Technical Occupations

SOC code	Description
29-1124	Radiation Therapists
29-1126	Respiratory Therapists

SOC code	Description
29-1141	Registered Nurses
29-2011	Medical and Clinical Laboratory Technologists
29-2012	Medical and Clinical Laboratory Technicians
29-2031	Cardiovascular Technologists and Technicians
29-2032	Diagnostic Medical Sonographers
29-2033	Nuclear Medicine Technologists
29-2034	Radiologic Technologists and Technicians
29-2035	Magnetic Resonance Imaging Technologists
29-2036	Medical Dosimetrists
29-2042	Emergency Medical Technicians
29-2043	Paramedics
29-2051	Dietetic Technicians
29-2052	Pharmacy Technicians
29-2053	Psychiatric Technicians
29-2055	Surgical Technologists
29-2056	Veterinary Technologists and Technicians
29-2057	Ophthalmic Medical Technicians
29-2061	Licensed Practical and Licensed Vocational Nurses
29-2072	Medical Records Specialists
29-2081	Opticians, Dispensing
29-2091	Orthotists and Prosthetists
29-2092	Hearing Aid Specialists
29-2099	Health Technologists and Technicians, All Other

Farming, Fishing, & Forestry Occupations

SOC code	Description
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals

Construction & Extraction Occupations

SOC code	Description
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers
47-2011	Boilermakers
47-2021	Brickmasons and Blockmasons
47-2022	Stonemasons
47-2031	Carpenters
47-2061	Construction Laborers
47-2073	Operating Engineers and Other Construction Equipment Operators
47-2111	Electricians
47-2152	Plumbers, Pipefitters, and Steamfitters
47-4011	Construction and Building Inspectors
47-4021	Elevator and Escalator Installers and Repairers

Installation, Maintenance, & Repair Occupations

SOC code	Description
49-2011	Computer, Automated Teller, and Office Machine Repairers

49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers
49-2091	Avionics Technicians
49-2092	Electric Motor, Power Tool, and Related Repairers
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles
49-2097	Audiovisual Equipment Installers and Repairers
49-2098	Security and Fire Alarm Systems Installers
49-3011	Aircraft Mechanics and Service Technicians
49-3023	Automotive Service Technicians and Mechanics
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists
49-3041	Farm Equipment Mechanics and Service Technicians
49-3042	Mobile Heavy Equipment Mechanics, Except Engines
49-3043	Rail Car Repairers
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
49-9041	Industrial Machinery Mechanics
49-9051	Electrical Power-Line Installers and Repairers
49-9052	Telecommunications Line Installers and Repairers
49-9071	Maintenance and Repair Workers, General

Production Occupations

SOC code	Description
51-4041	Machinists
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4111	Tool and Die Makers
51-4121	Welders, Cutters, Solderers, and Brazers

Transportation & Material Moving Occupations

SOC code	Description
53-3032	Heavy and Tractor-Trailer Truck Drivers

APPENDIX B. Program Codes and Titles Corresponding with Identified Shortage Areas and Skilled Trade Occupations

CIP 2020 Code	Classification of Instructional Programs (CIP) 2020 Title
01.0106	Agricultural Business Technology/Technician.
01.0201	Agricultural Mechanization, General.
01.0204	Agricultural Power Machinery Operation.
01.0205	Agricultural Mechanics and Equipment/Machine Technology/Technician.
01.0207	Irrigation Management Technology/Technician.
01.0299	Agricultural Mechanization, Other.
01.0310	Apiculture.
01.8301	Veterinary/Animal Health Technology/Technician and Veterinary Assistant.
01.8399	Veterinary/Animal Health Technologies/Technicians, Other.
04.0901	Architectural Technology/Technician.
04.0902	Architectural and Building Sciences/Technology.
04.0999	Architectural Sciences and Technology, Other.
09.0702	Digital Communication and Media/Multimedia.
11.0101	Computer and Information Sciences, General.
11.0102	Artificial Intelligence.
11.0103	Information Technology.
11.0104	Informatics.
11.0105	Human-Centered Technology Design.
11.0199	Computer and Information Sciences, Other.
11.0201	Computer Programming/Programmer, General.
11.0202	Computer Programming, Specific Applications.
11.0203	Computer Programming, Vendor/Product Certification.
11.0204	Computer Game Programming.
11.0205	Computer Programming, Specific Platforms.
11.0299	Computer Programming, Other.
11.0301	Data Processing and Data Processing Technology/Technician.
11.0401	Information Science/Studies.
11.0501	Computer Systems Analysis/Analyst.
11.0701	Computer Science.
11.0801	Web Page, Digital/Multimedia and Information Resources Design.
11.0803	Computer Graphics.
11.0804	Modeling, Virtual Environments and Simulation.
11.0901	Computer Systems Networking and Telecommunications.
11.0902	Cloud Computing.
11.1001	Network and System Administration/Administrator.
11.1002	System, Networking, and LAN/WAN Management/Manager.
11.1003	Computer and Information Systems Security/Auditing/Information Assurance.
11.1004	Web/Multimedia Management and Webmaster.
11.1005	Information Technology Project Management.
11.1006	Computer Support Specialist.
13.0601	Educational Evaluation and Research.
13.0603	Educational Statistics and Research Methods.
13.0604	Educational Assessment, Testing, and Measurement.
13.0608	Institutional Research.
13.0699	Educational Assessment, Evaluation, and Research, Other.

14.0202	Astronautical Engineering.
14.0299	Aerospace, Aeronautical, and Astronautical/Space Engineering, Other.
14.0901	Computer Engineering, General.
14.0903	Computer Software Engineering.
14.1801	Materials Engineering.
14.1901	Mechanical Engineering.
14.3301	Construction Engineering.
14.3601	Manufacturing Engineering.
15.0000	Engineering Technologies/Technicians, General.
15.0001	Applied Engineering Technologies/Technicians.
15.0101	Architectural Engineering Technologies/Technicians.
15.0201	Civil Engineering Technologies/Technicians.
15.0303	Electrical, Electronic, and Communications Engineering Technology/Technician.
15.0304	Laser and Optical Technology/Technician.
15.0305	Telecommunications Technology/Technician.
15.0306	Integrated Circuit Design Technology/Technician.
15.0307	Audio Engineering Technology/Technician.
15.0399	Electrical/Electronic Engineering Technologies/Technicians, Other.
15.0401	Biomedical Technology/Technician.
15.0403	Electromechanical/Electromechanical Engineering Technology/Technician.
15.0404	Instrumentation Technology/Technician.
15.0405	Robotics Technology/Technician.
15.0406	Automation Engineer Technology/Technician.
15.0407	Mechatronics, Robotics, and Automation Engineering Technology/Technician.
15.0499	Electromechanical Technologies/Technicians, Other.
15.0501	Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/Technician.
15.0506	Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.
15.0507	Environmental/Environmental Engineering Technology/Technician.
15.0508	Hazardous Materials Management and Waste Technology/Technician.
15.0599	Environmental Control Technologies/Technicians, Other.
15.0607	Plastics and Polymer Engineering Technology/Technician.
15.0611	Metallurgical Technology/Technician.
15.0612	Industrial Technology/Technician.
15.0613	Manufacturing Engineering Technology/Technician.
15.0614	Welding Engineering Technology/Technician.
15.0615	Chemical Engineering Technology/Technician.
15.0616	Semiconductor Manufacturing Technology/Technician.
15.0617	Composite Materials Technology/Technician.
15.0699	Industrial Production Technologies/Technicians, Other.
15.0703	Industrial Safety Technology/Technician.
15.0704	Hazardous Materials Information Systems Technology/Technician.
15.0705	Process Safety Technology/Technician.
15.0801	Aeronautical/Aerospace Engineering Technology/Technician.
15.0803	Automotive Engineering Technology/Technician.
15.0805	Mechanical/Mechanical Engineering Technology/Technician.
15.0806	Marine Engineering Technology/Technician.
15.0807	Motorsports Engineering Technology/Technician.
15.0899	Mechanical Engineering Related Technologies/Technicians, Other.

15.0901	Mining Technology/Technician.
15.1001	Construction Engineering Technology/Technician.
15.1102	Surveying Technology/Surveying.
15.1103	Hydraulics and Fluid Power Technology/Technician.
15.1201	Computer Engineering Technology/Technician.
15.1202	Computer/Computer Systems Technology/Technician.
15.1203	Computer Hardware Technology/Technician.
15.1204	Computer Software Technology/Technician.
15.1299	Computer Engineering Technologies/Technicians, Other.
15.1301	Drafting and Design Technology/Technician, General.
15.1302	CAD/CADD Drafting and/or Design Technology/Technician.
15.1303	Architectural Drafting and Architectural CAD/CADD.
15.1304	Civil Drafting and Civil Engineering CAD/CADD.
15.1305	Electrical/Electronics Drafting and Electrical/Electronics CAD/CADD.
15.1306	Mechanical Drafting and Mechanical Drafting CAD/CADD.
15.1307	3-D Modeling and Design Technology/Technician.
15.1399	Drafting/Design Engineering Technologies/Technicians, Other.
15.1401	Nuclear Engineering Technology/Technician.
15.1501	Engineering/Industrial Management.
15.1503	Packaging Science.
15.1701	Energy Systems Technology/Technician.
15.1702	Power Plant Technology/Technician.
15.1703	Solar Energy Technology/Technician.
15.1704	Wind Energy Technology/Technician.
15.1705	Hydroelectric Energy Technology/Technician.
15.1706	Geothermal Energy Technology/Technician.
15.1799	Energy Systems Technologies/Technicians, Other.
19.0501	Foods, Nutrition, and Wellness Studies, General.
26.0401	Cell/Cellular Biology and Histology.
26.1006	Environmental Toxicology.
26.1103	Bioinformatics.
26.1104	Computational Biology.
27.0601	Applied Statistics, General.
29.0303	Engineering Acoustics.
29.0306	Operational Oceanography.
29.0307	Undersea Warfare.
29.0401	Aerospace Ground Equipment Technology.
29.0402	Air and Space Operations Technology.
29.0409	Radar Communications and Systems Technology.
30.0801	Mathematics and Computer Science.
30.1601	Accounting and Computer Science.
30.1901	Nutrition Sciences.
30.3001	Computational Science.
30.3101	Human Computer Interaction.
30.3901	Economics and Computer Science.
30.4801	Linguistics and Computer Science.
30.7001	Data Science, General.
30.7099	Data Science, Other.

30.7101	Data Analytics, General.
30.7102	Business Analytics.
30.7103	Data Visualization.
30.7104	Financial Analytics.
30.7199	Data Analytics, Other.
40.0512	Cheminformatics/Chemistry Informatics.
42.2804	Industrial and Organizational Psychology.
43.0403	Cyber/Computer Forensics and Counterterrorism.
43.0405	Financial Forensics and Fraud Investigation.
45.0701	Geography.
45.0702	Geographic Information Science and Cartography.
46.0000	Construction Trades, General.
46.0101	Mason/Masonry.
46.0201	Carpentry/Carpenter.
46.0301	Electrical and Power Transmission Installation/Installer, General.
46.0302	Electrician.
46.0303	Lineworker.
46.0399	Electrical and Power Transmission Installers, Other.
46.0401	Building/Property Maintenance.
46.0402	Concrete Finishing/Concrete Finisher.
46.0403	Building/Home/Construction Inspection/Inspector.
46.0404	Drywall Installation/Drywaller.
46.0406	Glazier.
46.0408	Painting/Painter and Wall Coverer.
46.0410	Roofer.
46.0412	Building/Construction Site Management/Manager.
46.0413	Carpet, Floor, and Tile Worker.
46.0414	Insulator.
46.0415	Building Construction Technology/Technician.
46.0502	Pipefitting/Pipefitter and Sprinkler Fitter.
46.0503	Plumbing Technology/Plumber.
46.0504	Well Drilling/Driller.
46.0505	Blasting/Blaster.
46.0599	Plumbing and Related Water Supply Services, Other.
47.0101	Electrical/Electronics Equipment Installation and Repair Technology/Technician, General.
47.0102	Business Machine Repair.
47.0103	Communications Systems Installation and Repair Technology/Technician.
47.0104	Computer Installation and Repair Technology/Technician.
47.0105	Industrial Electronics Technology/Technician.
47.0110	Security System Installation, Repair, and Inspection Technology/Technician.
47.0199	Electrical/Electronics Maintenance and Repair Technologies/Technicians, Other.
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician.
47.0302	Heavy Equipment Maintenance Technology/Technician.
47.0303	Industrial Mechanics and Maintenance Technology/Technician.
47.0600	Vehicle Maintenance and Repair Technology/Technician, General.
47.0604	Automobile/Automotive Mechanics Technology/Technician.
47.0605	Diesel Mechanics Technology/Technician.
47.0607	Airframe Mechanics and Aircraft Maintenance Technology/Technician.

47.0608	Aircraft Powerplant Technology/Technician.
47.0609	Avionics Maintenance Technology/Technician.
47.0612	Vehicle Emissions Inspection and Maintenance Technology/Technician.
47.0613	Medium/Heavy Vehicle and Truck Technology/Technician.
47.0614	Alternative Fuel Vehicle Technology/Technician.
47.0617	High Performance and Custom Engine Technician/Mechanic.
47.0701	Energy Systems Installation and Repair Technology/Technician.
47.0705	Hydroelectric Energy System Installation and Repair Technology/Technician.
47.0706	Geothermal Energy System Installation and Repair Technology/Technician.
48.0501	Machine Tool Technology/Machinist.
48.0503	Machine Shop Technology/Assistant.
48.0507	Tool and Die Technology/Technician.
48.0508	Welding Technology/Welder.
48.0801	Boilermaking/Boilermaker.
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation.
49.0205	Truck and Bus Driver/Commercial Vehicle Operator and Instructor.
49.0206	Mobil Crane Operator/Operation.
50.0401	Design and Visual Communications, General.
50.0409	Graphic Design.
51.0706	Health Information/Medical Records Administration/Administrator.
51.0707	Health Information/Medical Records Technology/Technician.
51.0709	Medical Office Computer Specialist/Assistant.
51.0713	Medical Insurance Coding Specialist/Coder.
51.0715	Health/Medical Claims Examiner.
51.0721	Disease Registry Data Management.
51.0802	Clinical/Medical Laboratory Assistant.
51.0805	Pharmacy Technician/Assistant.
51.0811	Pathology/Pathologist Assistant.
51.0812	Respiratory Therapy Technician/Assistant.
51.0814	Radiologist Assistant.
51.0901	Cardiovascular Technology/Technologist.
51.0902	Electrocardiograph Technology/Technician.
51.0903	Electroneurodiagnostic/Electroencephalographic Technology/Technologist.
51.0904	Emergency Medical Technology/Technician (EMT Paramedic).
51.0905	Nuclear Medical Technology/Technologist.
51.0906	Perfusion Technology/Perfusionist.
51.0907	Medical Radiologic Technology/Science - Radiation Therapist.
51.0908	Respiratory Care Therapy/Therapist.
51.0909	Surgical Technology/Technologist.
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician.
51.0911	Radiologic Technology/Science - Radiographer.
51.0914	Gene/Genetic Therapy.
51.0915	Cardiopulmonary Technology/Technologist.
51.0916	Radiation Protection/Health Physics Technician.
51.0917	Polysomnography.
51.0918	Hearing Instrument Specialist.
51.0919	Mammography Technology/Technician.
51.0920	Magnetic Resonance Imaging (MRI) Technology/Technician.

51.0921	Hyperbaric Medicine Technology/Technician.
51.0922	Intraoperative Neuromonitoring Technology/Technician.
51.0923	Orthopedic Technology/Technician.
51.0999	Allied Health Diagnostic, Intervention, and Treatment Professions, Other.
51.1001	Blood Bank Technology Specialist.
51.1002	Cytotechnology/Cytotechnologist.
51.1003	Hematology Technology/Technician.
51.1004	Clinical/Medical Laboratory Technician.
51.1005	Clinical Laboratory Science/Medical Technology/Technologist.
51.1007	Histologic Technology/Histotechnologist.
51.1008	Histologic Technician.
51.1010	Cytogenetics/Genetics/Clinical Genetics Technology/Technologist.
51.1011	Renal/Dialysis Technologist/Technician.
51.1012	Sterile Processing Technology/Technician.
51.1099	Clinical/Medical Laboratory Science and Allied Professions, Other.
51.1502	Psychiatric/Mental Health Services Technician.
51.1801	Opticianry/Ophthalmic Dispensing Optician.
51.1802	Optometric Technician/Assistant.
51.1803	Ophthalmic Technician/Technologist.
51.1804	Orthoptics/Orthoptist.
51.2307	Orthotist/Prosthetist.
51.2312	Assistive/Augmentative Technology and Rehabilitation Engineering.
51.2706	Medical Informatics.
51.3101	Dietetics/Dietitian.
51.3103	Dietetic Technician.
51.3104	Dietitian Assistant.
51.3801	Registered Nursing/Registered Nurse.
51.3802	Nursing Administration.
51.3803	Adult Health Nurse/Nursing.
51.3805	Family Practice Nurse/Nursing.
51.3806	Maternal/Child Health and Neonatal Nurse/Nursing.
51.3808	Nursing Science.
51.3809	Pediatric Nurse/Nursing.
51.3810	Psychiatric/Mental Health Nurse/Nursing.
51.3811	Public Health/Community Nurse/Nursing.
51.3812	Perioperative/Operating Room and Surgical Nurse/Nursing.
51.3813	Clinical Nurse Specialist.
51.3814	Critical Care Nursing.
51.3815	Occupational and Environmental Health Nursing.
51.3816	Emergency Room/Trauma Nursing.
51.3818	Nursing Practice.
51.3819	Palliative Care Nursing.
51.3820	Clinical Nurse Leader.
51.3821	Geriatric Nurse/Nursing.
51.3822	Women's Health Nurse/Nursing.
51.3824	Forensic Nursing.
51.3899	Registered Nursing, Nursing Administration, Nursing Research and Clinical Nursing, Other.
51.3901	Licensed Practical/Vocational Nurse Training.

51.3999	Practical Nursing, Vocational Nursing and Nursing Assistants, Other.
52.0101	Business/Commerce, General.
52.0201	Business Administration and Management, General.
52.0213	Organizational Leadership.
52.0301	Accounting.
52.0302	Accounting Technology/Technician and Bookkeeping.
52.0303	Auditing.
52.0304	Accounting and Finance.
52.0305	Accounting and Business/Management.
52.0601	Business/Managerial Economics.
52.0801	Finance, General.
52.0803	Banking and Financial Support Services.
52.0809	Credit Management.
52.1201	Management Information Systems, General.
52.1301	Management Science.
52.1404	Digital Marketing.
52.1601	Taxation.
52.1701	Insurance.