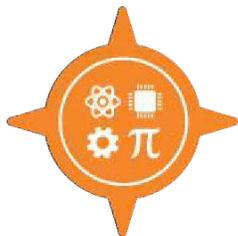


GUIDED PATHWAY: COMPUTER ENGINEERING (For Transfer to National University, BS in Computer Science)

ENGINEERING, TECHNOLOGY, MATHEMATICS and SCIENCES CAREER PATH



For more information, visit the [Dallas College Engineering webpage](http://www.dcccd.edu/engineering) [www.dcccd.edu/engineering] and your success coach at your campus.

Computer engineers make current devices we use for work and entertainment faster, smaller, cheaper, smarter, and safer. They also develop systems needed to protect and operate the United States' critical infrastructures—such as the Internet and smart power grid—so its day-to-day services are not interrupted. An Associate of Science degree in this pathway prepares you to transfer to a university to earn a bachelor's degree in Computer Engineering. From robotics to wireless networks, and operating systems to aircraft design, there is a specialization for any interest. Example employers for computer engineers include research laboratories, technology manufacturers, semiconductor companies, and digital consulting firms.

This is an example course sequence for students interested in pursuing Computer Engineering. It does not represent a contract, nor does it guarantee course availability. Following this pathway will help you earn an A.S. degree, which will increase your chances of transfer to National University (NU) to earn a Bachelor of Science in Computer Science. Students must earn at least 25% of the credit hours (15 hours) required for graduation through instruction by Dallas College. Courses that complete the degree are noted below. See catalog for [official degree requirements](#).

Visit [National University](#) to view more information about transferring to National University. Speak with your success coach to choose courses that will help you to transfer to NU.

| | | |
|------------------------|--|--|
| Catalog Year | 2021-2022 | You may use this pathway if you entered Dallas College on or before this date. |
| Degree Type | Associate of Science | |
| GPA Requirement | Student must earn a GPA of 2.0 or higher | |
| TSI | Must be Complete | |

SEMESTER-BY-SEMESTER MAP FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students. This is not an official program of study. See catalog for [official degree requirements](#).

ASSOCIATE OF SCIENCE DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS

PATHWAY REQUIREMENTS

Total Hours: 10

The following are prerequisite courses for MATH 2413.

MATH 1314
MATH 1316
MATH 2412

CONSIDER COMPLETING BEFORE TRANSFER

ENGR 2306 OR
ENGR 2305

SEMESTER 1

Total Hours: 16

ENGL 1301 – Composition I *This is a Core course. Must earn a grade of "C" or higher.*

HIST 1301 – United States History I *This is a Core course.*

MATH 2413 – Calculus I* *This is a Core course. Must earn a grade of "C" or higher. Prerequisites of MATH 1314, MATH 1316, MATH 2412, prior to enrolling in the course.*

EDUC 1300 – Learning Framework *All college students with fewer than 12 semester credit hours of successful college credit (grade of "C" or above) must take a student success course in the first semester.*

CHOOSE ONE: [ARTS 1303](#) – Art History I* *This is a Core course.* **OR**
[HUMA 1315](#) – Fine Arts Appreciation* *This is a Core course.* **OR**
[MUSI 1306](#) – Music Appreciation* *This is a Core course.*

*There are several options to fulfill this requirement. See your success coach for a specific list.

SEMESTER 1 ACTION ITEMS

1. Meet with your success coach to confirm your academic and career goals by the end of the semester.
2. Meet with your success coach to research your career options with a Computer Engineering degree.

SEMESTER 2

Total Hours: 13-14

[ENGL 1302](#) – Composition II *This is a Core course.*

[MATH 2414](#) – Calculus II*

CHOOSE ONE: [COSC 1436](#) – Programming Fundamentals I* **OR**

[MATH 2305](#) – Discrete Mathematics*

CHOOSE ONE: [HIST 1302](#) – United States History II* *This is a Core course.* **OR**

[HIST 2301](#) – Texas History* *This is a Core course.*

*There are several options to fulfill this requirement. See your success coach for a specific list. Elective courses should be selected according to the intended university to which you will transfer. See your success coach for assistance with course selection.

SEMESTER 2 ACTION ITEMS

1. Meet with your success coach to request an official program of study audit and confirm or update your academic/career pathway and program of study.
2. Ask your success coach about options to pursue the bachelor's degree.

SEMESTER 3

Total Hours: 7

[GOVT 2305](#) – Federal Government *This is a Core course.*

[PHYS 2425](#) – University Physics I* *This is a Core course.*

*There are several options to fulfill this requirement. See your success coach for a specific list.

SEMESTER 3 ACTION ITEMS

1. Begin applying to NU.

SEMESTER 4

Total Hours: 13-15

[GOVT 2306](#) – Texas Government *This is a Core course.*

[PHYS 2426](#) – University Physics II* *This is a Core course.*

[COSC 1437](#) – Programming Fundamentals II*

CHOOSE ONE: [ENGR 1201](#) – Introduction to Engineering* **OR**

[MATH 2415](#) – Calculus III* **OR**

[COSC 2425](#) – Computer Organization*

*There are several options to fulfill this requirement. See your success coach for a specific list. Elective courses should be selected according to the intended university to which you will transfer. See your success coach for assistance with course selection.

SEMESTER 4 ACTION ITEMS

1. Begin applying for Financial Aid and Scholarships. You can start the FAFSA in October for the next academic year. (*i.e., in October 2021, you can complete the FAFSA if you plan to register for classes at a university Fall 2022*)
2. Check with your success coach for important deadlines and dates.

SEMESTER 5

Total Hours: 14

[COSC 2436](#) – Programming Fundamentals III*

[ECON 2301](#) – Principles of Macroeconomics* *This is a Core course.*

[PHED 1164](#) – Introduction to Physical Fitness and Wellness* *This is a Core course.*

CHOOSE ONE: [ENGL 2331](#) – World Literature* *This is a Core course.* **OR**

[PHIL 1301](#) – Introduction to Philosophy* *This is a Core course.* **OR**

[PHIL 1306](#) – Introduction to Ethics* *This is a Core course.*

CHOOSE ONE: [SPCH 1321](#) – Business and Professional Communication* *This is a Core course.* **OR**

[SPCH 1315](#) – Public Speaking* *This is a Core course.*

*There are several options to fulfill this requirement. See your success coach for a specific list. Elective courses should be selected according to the intended university to which you will transfer. See your success coach for assistance with course selection.

SEMESTER 5 ACTION ITEMS

1. After reviewing your degree plan and program of study, meet with your success coach to apply for the Associate of Science degree in Computer Engineering.
2. Sign up for commencement.
3. Request final transcripts to be sent to NU.

Join the [Alumni Network!](#)

DALLAS COLLEGE PATHWAY TOTAL: 63-66 SEMESTER CREDIT HOURS

National University

For questions about the National University portion of this transfer pathway, contact the **Academic Advising Office at (855) 355-6288 or advisor@nu.edu**. It is best to apply to National University a full semester before you plan to transfer. It will help if you submit a copy of this pathway with your application. Each class at National University is one month (4 weeks) long. Students take one class per month. Students can complete 6 courses during each semester. Each class is 4.5 quarter units, which is equivalent to 3 semester units at Dallas College. See catalog for [official degree requirements](#).

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

SEMESTER 1

Total Hours: 27 quarter units

CSC 209 – Calculus for Comp Science II (4 weeks)
CSC 220 – Applied Probability & Statistics (4 weeks)
CSC 300 – Object Oriented Design (4 weeks)
CSC 350 – Computer Ethics (4 weeks)
EGR 320 – Scientific Problem Solving (4 weeks)
CSC 310 – Linear Algebra and Matrix Comp (4 weeks)

SEMESTER 2

Total Hours: 24 quarter units

CSC 331 – Discrete Structures and Logic (4 weeks)
CSC 335 – Data Structures and Algorithms (4 weeks)
CSC 338 – Algorithm Design (4 weeks)
CSC 340 – Digital Logic Design (4 weeks)
CSC 340L – Digital Logic Design Lab (1.5 quarter units, 4 weeks)
CSC 342 – Computer Architecture (4 weeks)

SEMESTER 3

Total Hours: 27 quarter units

CSC 400 – OS Theory and Design (4 weeks)
CSC 422 – Database Design (4 weeks)
CSC 436 – Comp. Communication Networks (4 weeks)
CSC 430 – Programming Languages (4 weeks)
CSC 480A – Computer Science Project I (4 weeks)
CSC 480B – Computer Science Project II (4 weeks)

SEMESTER 4

Total Hours: 22.5 quarter units

CSC 480C – Computer Science Project III (4 weeks)
ITM 470 – Information Security Management (4 weeks)
One Course Approved Elective (4 weeks)
One Course Approved Elective (4 weeks)
***One Upper Division General Education Course** (4 weeks)

*Please see program catalog for the BSCS Upper Division Elective and Upper Division General Education courses.

Note: In addition to Preparatory, Major Core, and Upper Division/Concentration Courses for the **Bachelor of Science in Computer Science** at National University, all students are required to complete 70.5 quarter units of General Education. Students completing the **Associate of Science with a focus in Computer Engineering** at Dallas College will need to complete an additional estimated 27 quarter units (18 semester units) of GE to meet program and unit requirements. For more information, please see National University's [catalog](#).

NATIONAL UNIVERSITY PATHWAY TOTAL: 100.5 QUARTER UNITS

BACHELOR OF SCIENCE DEGREE MINIMUM: 180 QUARTER UNITS

(Transfer Pathway Approved 9.8.2021 by National University)