Pre-Computer Science, A.A. (General Transfer)

Academic Program Code: 547

The Computer Science Pre-Major is designed for students who plan to transfer to a college or university as a junior to complete a Bachelor's degree in Computer Science. A Bachelor's degree in Computer Science prepares students to design software, solve computing problems, and discover new applications of computing technology. This includes operating systems, data communication, programming languages, and algorithm design.

This degree allows students to select specific courses that are equivalent to those offered in the freshman and sophomore years at four-year institutions. Transfer institutions may have specific admission requirements or require particular courses be taken as part of the A.A. degree, both within general education and electives. Students who plan to transfer are responsible for completing the admission requirements of the transfer institution.

General Transfer Notes & Michigan Transfer Agreement

The coursework needed to complete this program is listed below. The courses commonly transfer and satisfy 4-year program requirements at 4-year institutions in Michigan.

To ensure maximum transferability of individual courses, all course selections should be based on the degree, major, minor, or academic interest at the 4-year transfer institution students plan to attend.

Students should research and utilize all transfer resources available to maximize the number of GRCC courses that transfer and apply to their 4-year program.

Because transferability of courses varies by institution, students should contact the 4-year institution they plan to attend to obtain detailed information about transfer requirements. The 4-year institutions ultimately make the decisions about how each course will be used to meet their program requirements.

GRCC advisors and faculty are available to help students navigate transfer resources and create an individualized transfer plan, including selection of courses, which meets all GRCC and transfer institution requirements.

Graduates of this program will earn an Associate of Arts degree from GRCC and may be eligible to earn the Michigan Transfer Agreement (MTA) credential.

Admission requirements to 4-year institutions and 4-year programs vary. Students should review the specific admission requirements for the institution and program to which they are transferring.

General Education Courses

Select a minimum of 30 credit hours of coursework from the General Education course list. Select coursework as directed below. Use transfer resources available to select coursework based on the transfer requirements of the bachelor's degree program and institution to which you are transferring. See the "Program Elective Courses" section for courses that may also satisfy GRCC General Education Courses Requirements.

English Composition and Communications

- EN 101 - English Composition I **Credit Hours:** 3

Select one (1) course from the list below.

- EN 102 - English Composition II **Credit Hours:** 3
- COM 131 - Fundamentals of Public Speaking **Credit Hours:** 3
- COM 135 - Interpersonal Communication **Credit Hours:** 3

Humanities

Select two (2) Humanities General Education Electives from two (2) different subject areas. Only one (1) Foreign Language course can be used for the Humanities requirement.

- Humanities General Education - Elective **Credit Hours:** varies by course Hu 210. 3 Credits
- Humanities General Education - Elective **Credit Hours:** varies by course

Social Sciences

Select two (2) Social Sciences General Education Electives from two (2) different subject areas and should be selected based on your transfer requirements.

- Social Sciences General Education - Elective **Credit Hours:** varies by course
- Social Sciences General Education - Elective **Credit Hours:** varies by course

EC 251 - Principles of Macroeconomics
Credit Hours: 3

PY 201 - General Psychology Credits: 3

Natural Sciences and Mathematics

Natural Sciences

Select two (2) Natural Sciences General Education Electives from two (2) different subject areas; one (1) must be a lab. Courses should be selected based on your transfer requirements (see “Program Elective Courses” section for courses that may also satisfy GRCC General Education Requirements).

- Nat Sci Lab/Non Lab General Education - Elective **Credit Hours:** varies by course
- Nat Sci Lab General Education - Elective **Credit Hours:** varies by course

Mathematics

- MA 133 - Calculus with Analytic Geometry I **Credit Hours:** 5

General Education Total Credit Hours

30 (minimum)

Program Elective Courses

Select a **minimum** of four (4) courses from the list below based on your transfer requirements. You may be able to select more than the minimum number of courses required for this section depending on the program and degree requirements at the institution to which you are transferring.

- CIS 116 - Introduction to Computer Programming **Credit Hours:** 3
- CIS 117 - Java Programming I **Credit Hours:** 3
- CIS 123 - Computer Science I **Credit Hours:** 4
- CIS 171 - Database Design and Development **Credit Hours:** 3
- CIS 223 - Computer Science II **Credit Hours:** 4
- CIS 224 - Introduction to Systems Analysis **Credit Hours:** 3
- CIS 229 - C# Programming II **Credit Hours:** 3
- CIS 233 - Network+ **Credit Hours:** 3
- BA 201 - Business Communication **Credit Hours:** 3
- BA 209 - Issues in Business Ethics **Credit Hours:** 3
- BI 101 - General Biology **Credit Hours:** 4
- BI 117 - General Human Anatomy and Physiology **Credit Hours:** 4
- BI 151 - Introduction to Cells, Molecules, and Genes **Credit Hours:** 4
- BI 152 - Biological Diversity **Credit Hours:** 4
- CHM 130 - General Chemistry I **Credit Hours:** 4
- CHM 131 - General Chemistry I Laboratory **Credit Hours:** 1
- CHM 140 - General Chemistry II **Credit Hours:** 4
- CHM 141 - General Chemistry II Laboratory **Credit Hours:** 1
- COM 131 - Fundamentals of Public Speaking **Credit Hours:** 3
- EN 249 - Technical Writing **Credit Hours:** 3
- GL 101 - Introduction to Geology **Credit Hours:** 4
- GL 104 - Historical Geology **Credit Hours:** 4
- MA 134 - Calculus with Analytic Geometry II **Credit Hours:** 5
- MA 245 - Discrete Mathematical Structures **Credit Hours:** 4
- MA 250 - Linear Algebra **Credit Hours:** 4
- MA 257 - Differential Equations and Linear Algebra **Credit Hours:** 4
- MA 215 - Statistics **Credit Hours:** 4

  OR
- PY 281 - Introduction to Statistics **Credit Hours:** 4
- PH 125 - College Physics I **Credit Hours:** 5
- PH 126 - College Physics II **Credit Hours:** 5
- PH 245 - Calculus Physics I **Credit Hours:** 5
- PH 246 - Calculus Physics II **Credit Hours:** 5
- SO 254 - Social Problems **Credit Hours:** 3
- SO 260 - Race and Ethnicity **Credit Hours:** 3

Open Elective Courses

The remaining number of courses needed to complete the program will depend on the number of credit hours remaining needed to reach the 60 credits required for graduation. Course selections should be made based on transfer requirements.

Total Credit Hours

60

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