



## Sample Transfer Plan

### Area of Focus: **Pre-Engineering**

Associate in Science (AS) transfer degree

*East Campus students may need to take certain CS, MATH, and PHYS courses at the QC Campus or online.*

*The GE courses are taught at the QC Campus & online.*

**This Sample Transfer Plan is for students intending to major in professional Engineering after transfer but who have not selected a transfer institution or may be transferring to a school beyond BHC's service area.** Students who have a specific transfer school in mind should work with BHC and transfer school advisors to ensure the transfer institution's requirements are met. *Students interested in Engineering Technology programs should see an advisor who can provide transfer resources for that major.*

The Pre-Engineering area of focus prepares students to apply to professional Engineering programs by offering foundational courses in general engineering, mathematics, and science. Engineering programs are highly structured to meet the Accreditation Board for Engineering and Technology (A.B.E.T.) standards required for registration as a professional engineer. Students who successfully complete the Bachelor of Science degree in engineering may enter such careers as design, production and construction, operations, sales, management, testing, teaching, and consulting. Two other areas, research and development, require an advanced degree.

The various [Engineering specializations](#) require certain common courses as well as specific courses applicable to each specialization. Therefore, students in their freshman and sophomore years should begin to give serious thought to their specialization, its application in the employment market, and which transfer schools offer it.

**Transfer schools differ in their acceptance of Associate in Science degrees.** Students may complete the Associate in Arts degree instead, or construct a course-by-course plan to transfer before completing an AS or AA degree (*Reverse Transfer to complete the AA or AS degree is available*). Math, science, and general engineering course sequences should be started as soon as possible.

| <b>General Education Recommendations:</b>  |  | <b>minimum 37 credits</b> |
|--|--|---------------------------|
| This section <b>partially completes</b> the <a href="#">Illinois Articulation Initiative General Education Core Curriculum (IAI GECC)</a> which is a package of courses meeting general education requirements at more than 100 participating Illinois colleges and universities. Completion of the IAI GECC requires one more Social & Behavioral Science course and one more Humanities or Fine Arts course than the AS. |  |                           |
| <b>Communication (9 credits) – all courses required</b><br>ENG 101 Composition I (3) – grade 'C' or better required<br>ENG 102 Composition II (3) – grade 'C' or better required<br>SPEC 101 Principles of Speech Communication (3)  | <b>Social &amp; Behavioral Sciences (6 credits) - must include courses from two disciplines</b><br>ECON 221 Principles of Macroeconomics (3) <b>or</b> ECON 222 Principles of Microeconomics (3) - <i>consult transfer school</i><br>Choose one IAI: S course (except ECON). <i>For Industrial Engineering take PSYC 101 Intro to Psychology (3)</i> |                           |
| <b>Humanities (3 credits)</b><br>Choose one IAI: H, or HF course (3)<br><br><b>Fine Arts (3 credits)</b><br>Choose one IAI: F or HF course (3)   | <b>Mathematics (6 credits min.)</b><br>MATH 124 Calculus I with Analytic Geometry (4) <b>and</b><br>MATH 225 Calculus II with Analytic Geometry (4)  |                           |
| <b>Physical &amp; Life Sciences (10 credits min. including one lab)</b><br>Physical Science – PHYS 201 Mechanics & Thermal Physics (5) <b>and</b> PHYS 202 Electricity and Magnetism (5)   |  |                           |
| Life Science – choose one IAI: L course (3 min.). <i>Required for BHC graduation, &amp; the IAI GECC; not required by all engineering specializations.</i>   |  |                           |

| <b>Elective Recommendations:</b>   |   | <b>up to 23 credits</b> |
|--|---|-------------------------|
| <p>This section includes courses appropriate for this area of focus. Because transfer institutions vary in their acceptance of coursework, see <a href="#">Course Transfer Tables and Transferology</a> or an advisor. IAI courses are identified with an asterisk *. <b>Seek advising about other elective courses that may support your reasons for choosing this area of focus.</b></p>   |   |                         |
| <p><u>Recommendations apply to the majority of engineering specializations; however, transfer schools differ in which ones they offer, especially for agricultural, biological, chemical, computer &amp; software engineering.</u></p> <p><b>General Engineering courses:</b><br/>           GE 101 Engineering Graphics &amp; Geometry (3)*<br/>           GE 201 Analytical Mechanics: Statics (3)*<br/>           GE 202 Analytical Mechanics: Dynamics (3)*<br/>           GE 205 Strength of Materials (3)*</p> <p><b>Chemistry course(s):</b><br/>           CHEM 101 General Chemistry I (4)*</p> <p><i>NOTE: for Chemical Engineering, take CHEM 203 Organic Chemistry I (5)* <b>and</b> CHEM 204 Organic Chemistry II (5)* instead of GE 202 &amp; GE 205</i></p> | <p><b>Additional Mathematics courses:</b><br/>           MATH 226 Calculus III with Analytic Geometry (5)* - completes the Calculus sequence<br/>           MATH 235 Differential Equations (3)*</p> <p><b>Computer Science programming course:</b> <i>consult transfer school</i><br/>           CS 121 Intro to Computer Science (3)*</p> <p><b>Other Electives:</b> <i>consult transfer school</i><br/>           CHEM 102 General Chemistry II (4)*<br/>           CS 225 Advanced Programming (3)*<br/>           MATH 230 Linear Algebra (3)*</p> |                         |
| <p><b>Second Language:</b> Consider potential second language admission and/or graduation requirements of transfer schools, which may be satisfied with high school and/or college courses. Consult an advisor.</p>  |   |                         |
| <p><b>60 total credits required for AS degree (General Education + Electives)</b></p>  |   |                         |
| <p><b>Non-Western studies graduation requirement:</b> To graduate with the AS degree, include at least one non-Western studies course, which can simultaneously fulfill a general education requirement in Humanities, Fine Arts, or Social &amp; Behavioral Science, or taken as an elective. Choose from ANTH 100 or 102; ART 285 or 286; ENG 217, 218 or 219; HIST 222, 141, 142 or 151; HUM 102; IS 200; or MUSC 158.</p> <p><b>Students pursuing Pre-Engineering will often complete more than the 60 required credits due to the math and science course sequences required for admission to engineering majors.</b></p>   |   |                         |

**Learn More About This Area of Focus:**

- Get to know [Black Hawk College Career Services](#) Phone: 309-796-5626
- Visit [Career Coach](#) to Browse Careers. Includes job data and open positions for the greater Quad City region and beyond.
- Browse careers at [Collegegrad.com/careers](#) [O\\*Net OnLine](#) [Occupational Outlook Handbook](#) [Occupational Profiles](#)
- For additional information visit [Educating Engineers](#) [Society of Women Engineers](#) [Interesting Engineering](#)

**Course Transferability:**

- Course and transfer requirements can vary among institutions and may differ from the recommendations on this guide. Grades of 'C' or better are required for physics, chemistry, mathematics, and engineering science courses to transfer and for admission to the majority of engineering majors. A similar policy may exist for general education courses for this major.
- Students should decide on an Engineering field and a preferred transfer school by the beginning of the sophomore year (typically before completing 30 college-level credits). Course requirements vary by engineering specialty and school.

| <b>Where to transfer?</b>  |  |  |
|--|--|--|
| Explore transfer colleges and universities and their majors:   |  |  |
| Explore Colleges & Universities<br><a href="https://www.bhc.edu/academics/transfer-planning/explore-colleges-universities/">https://www.bhc.edu/academics/transfer-planning/explore-colleges-universities/</a> | Illinois Institutional Profiles<br><a href="https://illinoispostsecondaryprofiles.com/Home/Index">https://illinoispostsecondaryprofiles.com/Home/Index</a> | College Navigator<br><a href="https://nces.ed.gov/collegenavigator/">https://nces.ed.gov/collegenavigator/</a> |

**Degree Timeframe:**

- Students who complete an average of 15 college-level credits in four consecutive fall and spring semesters could complete the degree in two years. Students determine their own pace and progress and should consider their work and personal commitments, course difficulty, course pre-requisites, and possible need for additional courses determined by placement assessments. Advisors are available to discuss credit load and schedules appropriate for student goals and circumstances.
- Students transferring before completing the associate degree should discuss [Reverse Transfer](#) with their BHC advisor. Black Hawk College will evaluate your college or university work to determine if those credits will fulfill the remaining requirements of the associate's degree.

**Advising Notes:**

- See the current [BHC Catalog](#) for all IAI course codes, course descriptions, pre-requisite information, and complete graduation requirements to earn the degree. The area of focus is not stated on student transcripts.
- This guide is not a substitute for advising. All students are encouraged to connect with their assigned BHC advisor each semester.

| Semester            | Meet with BHC advisor | Registration begins                 |
|---------------------|-----------------------|-------------------------------------|
| Summer and Fall     | February or March     | 1 <sup>st</sup> Tuesday in April    |
| Spring & minimester | September or October  | 1 <sup>st</sup> Tuesday in November |

| BHC Contacts   |  |   |
|--|--|---|
| QC Campus Advising / Moline, IL<br>Building 1, Advising Center<br>309-796-5100<br>Email <a href="mailto:advqc@bhc.edu">advqc@bhc.edu</a> | East Campus Advising / Galva, IL<br>Building A, Room 246<br>309-854-1709 | <a href="#">Natural Sciences &amp; Engineering Department</a> |