COMPUTER SCIENCE: TECHNICAL EMPHASIS MAJORS
(Suggested Associate in Science Degree Curriculum)

This worksheet is designed to help students select courses which are likely to apply to a major in COMPUTER SCIENCE with a technical emphasis. These suggested courses satisfy requirements in the Associate in Science Degree program at Prairie State College and provide the basis for transferring to a four-year institution. This program meets the guidelines of the IAI (Illinois Articulation Initiative) Baccalaureate Major Panel for Computer Science: Technical Emphasis. Students should obtain a copy of the Prairie State College Associate in Science Degree Worksheet and should visit the IAI website at www.iTransfer.org for more information.

The “Technical Emphasis” focuses on algorithms, theoretical foundations of computer science, and development of software. A strong foundation in mathematics and science is needed for this emphasis. Graduates of this emphasis will be prepared to work for a variety of companies including those that have a software, engineering, scientific or mathematical focus. Baccalaureate schools may have multiple computer degree programs, often located in different departments, which build on the recommendations for the Computer Science: Technical Emphasis. This major is typically found in a department named Computer Science or Mathematics and Computer Science or within a College of Engineering. Some schools may not require all of the courses listed below. Consult the baccalaureate schools you are considering and speak with a computer science advisor to select the appropriate courses for transfer.

CAREER INFORMATION
The study of computers, mathematics and engineering focuses on the development of problem-solving skills and tools and the ability to analyze a situation and effectively use these tools. Career opportunities exist for actuaries, business or financial analysts, computer systems analysts, mathematicians, operations research analysts, statisticians, and computer/math teachers at the junior high and secondary level. Students may choose to go on and do graduate-level research in advanced mathematics and computer science theory and applications.

SUGGESTED CURRICULUM
Each senior institution has its own transfer policies. Therefore, we cannot guarantee the accuracy of this information in regard to every individual school. Consult the school of your choice and/or the Prairie State College Counseling and Academic Advising Center to discuss the transferability of courses.

TRANSFERABLE GENERAL EDUCATION CORE (37-38 credits)

Area A: Communications (9 credits)

<table>
<thead>
<tr>
<th>Course Core (3)</th>
<th>Area (Year)</th>
<th>Title (Prereq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101 (3)</td>
<td>[C1 900]*</td>
<td>Composition I</td>
</tr>
<tr>
<td>ENG 102 (3)</td>
<td>[C1 901R]*</td>
<td>Composition II</td>
</tr>
<tr>
<td>COMM 101 (3)</td>
<td>[C2 900]</td>
<td>Principles of Communication</td>
</tr>
</tbody>
</table>

*Must have a C or better in ENG 101 & 102 to receive credit for the degree.

Area B: Humanities and Fine Arts (9 credits)
Select three courses with at least one course selected from the humanities area and one course from the fine arts area. Refer to the Associate in Science Degree Worksheet, Area B, for a listing of approved course choices.

<table>
<thead>
<tr>
<th>Course Core (3)</th>
<th>Area (Year)</th>
<th>Title (Prereq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities Course (3)</td>
<td></td>
<td>Select any Area B Humanities Course (Prereq. Placement in ENG 099 or above)</td>
</tr>
<tr>
<td>Fine Arts Course (3)</td>
<td></td>
<td>Select any Area B Fine Arts Course (Prereq. Placement in ENG 099 or above)</td>
</tr>
<tr>
<td>Humanities/Fine Arts Course (3)</td>
<td></td>
<td>Select any Area B Course (Prereq. Placement in ENG 099 or above)</td>
</tr>
</tbody>
</table>

Area C: Mathematics (3 credits)

<table>
<thead>
<tr>
<th>Course Core (4)</th>
<th>Area (Year)</th>
<th>Title (Prereq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 155 (4)</td>
<td>[M1 906]</td>
<td>Finite Mathematics (Prereq. MATH 151 with C or better or qualifying score on Math Placement Test) OR</td>
</tr>
<tr>
<td>MATH 157 (4)</td>
<td>[M1 900-B]</td>
<td>Calculus for Business &amp; Social Science (Prereq. MATH 151 with C or better or qualifying score on Math Placement Test) OR</td>
</tr>
<tr>
<td>MATH 171 (5)</td>
<td>[M1 900-I]</td>
<td>Calculus with Analytic Geometry I (Prereq. MATH 165 with C or better or qualifying score on Math Placement Test) OR</td>
</tr>
<tr>
<td>MATH 210 (3)</td>
<td>[CS 915]</td>
<td>Discrete Mathematics (Prereq. MATH 151 with C or better or qualifying score on Math Placement Test)</td>
</tr>
</tbody>
</table>

Area D: Physical and Life Sciences (7-8 credits)
Select one life science course and one physical science course. One course must have a lab component. Refer to the Associate in Science Degree Worksheet, Area D, for a listing of approved course choices.

<table>
<thead>
<tr>
<th>Course Core (3-4)</th>
<th>Area (Year)</th>
<th>Title (Prereq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSI 210 (4)</td>
<td>[P2 900L]</td>
<td>University Physics I (Prereq. MATH 171 with C or better and HS physics or equivalent)</td>
</tr>
<tr>
<td>Life Science course (3-4)</td>
<td></td>
<td>Select any Area D Life Science Course (Prereq. Placement in ENG 099 or above)</td>
</tr>
</tbody>
</table>

Ivy: 04/20/15
Area E: Social and Behavioral Sciences (9 credits)
Select three courses in at least two different disciplines. Refer to the Associate in Science Worksheet, Area E, for a listing of approved course choices.

ECON 201 (3) [S3 901] Macroeconomic Principles (Prereq. Placement in ENG 099 or above)
ECON 202 (3) [S3 902] Microeconomic Principles (Prereq. ECON 201)
Social/Behavioral Sci Course (3) Select any Area E course, other than ECON (Prereq. Placement in ENG 099 or above)

COMPUTER SCIENCE/TECHNICAL COURSE RECOMMENDATIONS (24-25 credits)
(Consult with the school to which you plan to transfer to verify transferability of these courses for this major)
Select 22-23 credits from the “suggested” course recommendations listed below:
Select one programming language sequence from the list below:

ITPRG 142 (3) Visual Basic Programming I (Prereq. Placement in ENG 099 or above; IT 140 and ITPRG 103 with C or better recommended)
AND ITPRG 242 (3) Visual Basic Programming II (Prereq. Placement in ENG 099 or above; ITPRG 142 with C or better recommended)
OR ITPRG 144 (3) C++ Programming I (Prereq. Placement in ENG 099 or above; IT 140 and ITPRG 103 with C or better recommended)
AND ITPRG 244 (3) [CS 912] C++ Programming II (Prereq. Placement in ENG 099 or above; ITPRG 144 with C or better recommended)
OR ITPRG 147 (3) [CS 911] JAVA Programming I (Prereq. Placement in ENG 099 or above; IT 140 and ITPRG 103 with C or better recommended)
AND ITPRG 247 (3) JAVA Programming II (Prereq. Placement in ENG or above; ITPRG 147 with C or better recommended)
MATH 210 (3) [CS 915] Discrete Mathematics (Prereq. MATH 151 with C or better or qualifying score on Math Placement Test) if not taken to satisfy Area C

*Note: It is strongly recommended (and may be required at some senior institutions) that both programming courses are in the same language and be taken at the same school before transfer. Consult the senior institution that you are considering, since different schools have different requirements. Students may want to consult their choice of senior institution for requirements on language used in these courses as students will need to demonstrate mastery of the language used by the senior institution.

Other suggested elective courses which satisfy the PSC AA/AS degree requirements may include transfer courses of 100 level or above (see the 2014-16 catalog, pages 49-51 for the list of approved transfer courses):
Additional courses recommended as transferable by the university to which you plan to transfer.
Up to four credits of physical education courses
Foreign language courses (Some universities have a foreign language requirement. Generally, four years of a single foreign language in high school, or four semesters in college, will fulfill this requirement. It is recommended that students complete the entire sequence at one institution.)
For the AA or AS degree, student may use one vocational/technical course (four credits or less) that is not on the approved list if they present documentation (recent written correspondence or transfer/advising guide) that the receiving institution will accept the course for credit. If a student plans to use more than one such course, he/she must obtain approval from the Vice President for Academic Affairs.

62 CREDITS REQUIRED FOR AN ASSOCIATE IN SCIENCE DEGREE

FOR FURTHER INFORMATION CONTACT:
Counseling and Academic Advising Center
Room 1190 (708) 709-3506

INFORMATION TECHNOLOGY DEPARTMENT FACULTY:
Jackie Dennis Room 2112 (708) 709-3649 idennis@prairiestate.edu
Brian Donovan Room 2184 (708) 709-2959 bdonovan@prairiestate.edu

FOR TRANSFER INFORMATION:
MyCreditsTransfer, formerly known as u.select: http://www.transferology.com/state/il?all
Illinois Articulation Initiative (IAI): www.iTransfer.org
Links to Articulation Tables for Illinois Colleges: http://www.itransfer.org/IAI/Other/Articulationlinks.taf
Visit the web sites of colleges and universities to which you plan to transfer.

FOR CAREER INFORMATION:
Association for Computing Machinery: http://www.acm.org
Association of Information Technology Professionals: http://www.aitp.org
Institute for Certification of Computing Professionals: http://www.iccp.org