Colorado Career & Technical Education

Preparing Today’s Students’ for Tomorrow’s Opportunities

Plan of Study Template

Colorado Career & Technical Education (CTE) believes that every student should be on a path that leads to career success, through seamless plans of study fostering academic and technical achievement, to develop a globally competitive workforce for Colorado. Use of this model will enhance Colorado’s ability to grow a globally competitive workforce.

To ensure that this belief becomes a reality, we have provided the attached “Plan of Study Template” to assist our more than 2000 CTE programs in developing their required local plans of study.

What is a Plan of Study…

A Plan of Study is a coherent, articulated sequence of rigorous academic and career-related courses, commencing in the ninth grade and leads to an industry-recognized certificate or licensure, and/or an associate or baccalaureate degree and beyond. It must:

1. Incorporate secondary education and postsecondary education elements;
2. Include coherent and rigorous content aligned with challenging academic standards and relevant career and technical content in a coordinated, non-duplicative progression of courses;
3. Align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education;
4. Include the opportunity for secondary education students to acquire postsecondary education credits; and
5. Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Why use a Plan of Study…

Student/Parent

✓ Provides a “road map” to their career goals
✓ Plans are flexible, allowing students to explore and update their plans of study
✓ Highlights secondary to postsecondary linkages allowing for seamless transition to further education

Teacher (Requirements for Perkins funding)

✓ Increases student retention
✓ Demonstrates the importance of CTE programs as a progression of learning
✓ Connects the Career Path Courses with the appropriate Core Academic Courses to promote student success

Guidance Counselor

✓ Increases awareness of CTE opportunities
✓ Provides an easy-to-use guidance tool designed to help students plan their education based on their career goals
✓ Empowers students to take greater responsibility for their own career research and planning

How to create a local Plan of Study…

This template, which is in an 11 x 17 document, was created using the “Form” function in Word. Only the items that you need to fill in are open for editing. The first item to edit will be “Pathway Name.” To edit it, select the text and begin typing and when you have finished editing an item, simply click “Tab” to move to the next item. To determine what to include in each section see the descriptions on the following page.

✓ Select the Appropriate Cluster and Pathway
   Each Plan of Study will need to fall under the appropriate Career Cluster and Pathway. For a full list of Colorado’s Clusters and Pathways go to http://www.cccs.edu/CTE/index.html and click on Career Clusters. Please remember that there can be multiple pathways in which your plan of study may fit. Select the one that best aligns with your program.
√ Create a Name for your Plan of Study
The Plan of Study name in most cases will be your program name. However, you may wish to use a different name that might connect better with students and parents in order to increase the marketability of the program.

√ Define Career Opportunities:
Each Plan of Study needs to identify the related careers that students are preparing for. Please include both the career name and O*NET code for each related career opportunity. Career occupations and codes can be found at http://online.onetcenter.org/. The O*NET system serves as the nation's primary source of occupational information, providing comprehensive information on key attributes and characteristics of workers and occupations.

Navigating O*NET:
- To get started, click on http://online.onetcenter.org/
- On their homepage click on “Find Occupations”
- Type in the “Quick Search” section a keyword, for example, “welder” and it will bring up a page listing occupations with a related ONET-SOC code
- Click on one of the occupations of interest to you and it will bring up a page that details tasks performed, tools and technology utilized, and the knowledge, skills and abilities necessary as well as other helpful information

√ Identify Core Academic and Career Path Courses
This is the most important part of the plan of study. In this section you need to include the Core and Career Course sequence or series of options that will best prepare the student for this career path. It will be important to involve the school guidance counselor in this step! Core academic courses would include those courses required for graduation as a minimum, with suggested Core courses related to the career path. (For instance, a student interested in Animal Reproduction would benefit from an Anatomy and Physiology course as a required science course while a Construction Technology student would be better served by a Physics course.)

The Career course section should include the required CTE courses for adequate technical preparation in the pathway. In addition, space has been provided to include any electives that may be recommended for this plan of study.

√ Include Postsecondary Credit Options and Available Certificates or Licenses
In this section note any postsecondary credit opportunities that might be available to your students. They might include: Advanced Credit Pathway (ACP), Dual Enrollment, PSEO, Articulation agreements, or Fast College/Fast Jobs. Also include any Industry recognized certificates or licenses available upon completion of the program.

√ Include Postsecondary Programs Available in Colorado
This section highlights the opportunities for students to continue their education in Colorado. Information on programs and institutions offering them is available at www.collegeincolorado.org. Please also include any special program entrance requirements such as “GED” or “Accuplacer Testing” to prepare students for seamless transition.

√ Describe Extended Learning Opportunities
Extended learning opportunities are those experiences that go in many cases beyond the classroom. Examples are provided below.
Curricular Experiences – Extended Classroom Projects, Related Student Organization Activities
Extracurricular Experiences – Additional career-related experiences outside the classroom (International Exchange)
Work-based Learning Experiences – Potential Internships or shadowing opportunities
Service Learning Experiences – Community service-related activities like 4-H, Boy Scouts, Girl Scouts
Program Accreditation and/or Professional Organizations – Include organizations that will serve as resources for students to understand the career path.

√ Career Options
In this section please give examples of careers that would be attainable for the student after completing each level of education. Career names and salary ranges can be found via O*Net at http://online.onetcenter.org/.

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## Career Goal (O*Net Code):
11-1099.04 Web Developers; 15-1081.00 Network Systems and Data Communications Analysts; 15-1071.00 Network and Computer Systems Administrators; 15-1021.00 Computer Programmers; 15-1041.00 Computer Support Specialists

### Suggested High School Courses

<table>
<thead>
<tr>
<th>Year</th>
<th>Core Academic Courses*</th>
<th>Career Path Courses</th>
<th>Suggested Electives</th>
</tr>
</thead>
</table>

### Secondary to Postsecondary Linkages & Certifications

- **Postsecondary Credit Options:** Articulated Credit (see *’s above for classes that articulate and attached articulation agreement), ACP (Advanced Credit Pathway), PSEO (Post Secondary Enrollment Options - 11th and 12th grade, up to two classes/semester for 2 years),

- **Recognition for Advanced Learning:****
  - Microsoft Certifications - http://www.microsoft.com/learning/mcp/certifications.mspx; MOS
  - Network+Security+Microsoft MCSA/ MCSE, CWNA, CWSP
  - A+Network+Security+ - Computer Technician - Comp TIAA+
<table>
<thead>
<tr>
<th>Postsecondary Education Opportunities</th>
<th>Postsecondary Programs Available in Colorado</th>
<th>Colorado Institutions</th>
<th>Entrance Exams/Requirements</th>
</tr>
</thead>
</table>
| Certificate                          | IComputer Aided Drafting - 2D, 3D, Custom  | Arapahoe Community College  
Computer Information Systems  
Networking Certificates (UNIX, CISCO, Microsoft Certified, Networking Security)  
Computer Technician  
Microsoft Certified System Engineer  
Computer Graphics  
Web-Based Design/Marketing | Community College of Denver  
Red Rocks Community College  
Westwood College | CPT/Accuplacer  
Varies by course |
| Associate Degree                     | Computer Information Systems (AAS) with various options  
Computer Network Technology(AAS)  
Computer Science(AAS)  
Computer Support Professional(AAS)  
Business Administration(AAS)  
AA Business Transfer Emphasis  
AAS Multimedia/Graphic Design and Illustration  
Information Sciences/Studies | Aimes Community College  
Arapahoe Community College  
Northwestern Community College  
Community College of Aurora  
Community College of Denver  
Front Range Community College  
ITT Technical Institute  
Metropolitan State College of Denver  
Pikes Peak Community College  
Red Rocks Community College  
Westwood | High School Diploma/GED  
CPT/Accuplacer  
IGeneral Ed Entrance and Course requirements  
Emphasis Requirements |
| Bachelor Degree                      | Computer Information Systems/Security  
Computer Science  
Computer Systems Analysis/Analyst  
Computer Information Sciences and Support Systems | Airforce Academy  
Colorado Mountain College  
Colorado School of Mines  
Colorado State University  
DeVry University  
University of Colorado  
University of Colorado at C. Springs  
University of Colorado at Denver  
University of Denver | High School Diploma  
ACT/SAT Requirements for an Associate Degree plus additional requirements |
| Graduate Degree                      | Computer Science  
Computer and Information Science  
Information Science and Studies | Colorado School of Mines  
Colorado State University  
Regis University  
University of Colorado at Boulder  
University of Colorado Health Sciences Center | GRE  
IBachelor Degree |

Extended Learning Experiences

Curricular Experiences:
DECA - (events in organizations that apply)

Extracurricular Experiences:
FBLA, TSA, FCCLA
Business Expos
Career Fairs
MUSE
Model United Nations
Student Council/Student Government
Key Club

Work-Based Learning Experiences:
Career Preparation – Paid and Unpaid, Job Shadowing, Internships, Community Employment Experience, Informational Interviews and Academic Internship (available through Advisory Committee).

Program Accreditation and/or Professional Association(s):
Professional Business Leaders - (FBLA-PBL.org
Independent Computer Consultants Association
Association for Women in Computing
Institute for Certification of Commuting Professionals
Computer Technology Industry Association
Society for Information Management
IEEE Computer Society

Service Learning Experiences:
See above - Volunteer tech support skills to community

Career Options:

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Programmers - C++, Java, etc.</td>
<td>$$</td>
</tr>
<tr>
<td>Telecommunications Equipment - Installer and Repairer</td>
<td></td>
</tr>
<tr>
<td>Computer Equipment Repairer</td>
<td></td>
</tr>
<tr>
<td>Electrical/Electronics Repairer</td>
<td></td>
</tr>
<tr>
<td>Office Administrative Support Specialist</td>
<td></td>
</tr>
<tr>
<td>Desktop Publisher</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associate Degree</th>
<th>Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Programmers</td>
<td>$$-$ $$</td>
</tr>
<tr>
<td>Graphic Designers</td>
<td></td>
</tr>
<tr>
<td>Desktop Publisher</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bachelor Degree</th>
<th>Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Programmers</td>
<td>$$-$ $$</td>
</tr>
<tr>
<td>Computer Science</td>
<td></td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td></td>
</tr>
<tr>
<td>Computer and Information Systems Manager</td>
<td></td>
</tr>
<tr>
<td>Network Systems/Data Communications Analyst</td>
<td></td>
</tr>
<tr>
<td>Graphic Designers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduate Degree</th>
<th>Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science</td>
<td>$$-$ $$</td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td></td>
</tr>
<tr>
<td>Computer and Information Systems Manager</td>
<td></td>
</tr>
</tbody>
</table>

* $ = $15-25,000; $$ = $25-55,000; $$$ = $55-90,000; $$$$ = Above $90,000

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