Designing Student-focused Curriculum Through Academic Pathways

CT STEM Pathways
September 16, 2016
The institution only exists through the eye of the student.

---Sandy Shugart, President, Valencia College
New Students Want to Know

- What are my career options?
- What are the education paths to those careers?
- What will I need to take?
- How long will it take and how much will it cost?
- How much financial aid can I get?
- Will my credits transfer?
Returning Students Ask

- How far along am I toward completing my program? Am I on-schedule?
- How much more will I have to pay?
- What will I need to take next term and what will my scheduled be?
- What if I want to change programs?
- How can I get work experience in my field of interest?
Cafeteria College

Paths to student goals unclear

Intake sorts, diverts students

Students’ progress not monitored

Learning outcomes not defined and assessed across programs

↑ Churning

↑ Early transfer

↓ Completion

↑ Excess credits

↑ Time to degree

↓ Skill building
Most full-time students don’t graduate on time. Many graduates earn excess credits. And graduates take far too long to finish, costing missed opportunities and money.

### 1-2 Year Certificate
- **15.9%** on time
- 64.9% standard

### 2 Year Associate
- **5%** on time
- 80.9% standard

### 4 Year Bachelor’s
- **19%** on time
- 133.5% standard

### 4 Year Bachelor’s (Non Flagship)
- **36%** on time
- 134.6% standard

SPC Ranges

**AA/AS degrees** – 77-164 hours

**BS/BAS degrees** – 135-214 hours

Source: Complete College America Dec. 2014
Guided Pathways College

- Clear roadmaps to student goals
- Intake redesigned as an on-ramp
- Students’ progress closely tracked
- Learning outcomes/assessments aligned across programs

- Churning
- Early transfer
- Completion
- Excess credits
- Time to degree
- Skill building
Suggested Elements

Source: Complete College America Dec. 2014
“The key part of (academic pathways) approach is to start with the end in mind...earning a degree that enables (students) to prepare for further education and advancement in the labor market.”

--Davis Jenkins, Ph.D.
CCRC
Since 2010, SPC has focused its strategic efforts on student success using an intentional data-driven way to help students “Finish What They Start”.
Guided Pathways at SPC

**Foundation: The College Experience**

Step 1: Start with Strategic Guiding Principles, a Value-based Culture that is Mission Focused

Step 2: Commit to Transparency and Creating a Culture of Inquiry

Step 3: Empower Staff through Shared Ownership

Step 4: Create a Unified Student Experience

Step 5: Grow the Team, Both Personally and Professionally

Step 6: Align Your Money and Your Mission

**Transforming Culture through a Commitment to:**

- Transparency
- Inquiry
- Shared Leadership
- Continuous Learning & Improvement (i.e., Change)

**Curriculum Redesign**

**Student-centered Curriculum at SPC**

- SPC Mission/Values
- PLOs, MLOs, Assessment
- Curriculum Philosophy

- Student Focus
- Academic Quality
- Structural Integrity
- Articulation Assurance

**Key Drivers:**

- Recognition that SPC’s curriculum is a core product and process
- Commitment to continuous improvement of curriculum via annual Summer Curriculum & Assessment Institutes
- Envision the College Experience through the students’ perspective via Academic Pathways
- Engage advisors in the C&I process
The College Experience at SPC
What are Academic Pathways?

- SPC’s solution to taking the guesswork out of planning a student’s college career.

- Chronological listings of all specific, DEFAULT courses in a degree-program in the suggested order in which a student should complete them.

<table>
<thead>
<tr>
<th>Recommended Academic Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XYZ-AS Program</strong></td>
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<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>1. Course 1</td>
<td>3</td>
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<td>2. Course 2</td>
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<td>3. Course 3</td>
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</tr>
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<td>4. Course 4</td>
<td>3</td>
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<tr>
<td>5. Course 5</td>
<td>3</td>
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<tr>
<td>6. Course 6</td>
<td>2</td>
</tr>
<tr>
<td>7. Course 7</td>
<td>2</td>
</tr>
<tr>
<td>8. Course 8</td>
<td>3</td>
</tr>
<tr>
<td>9. Course 9</td>
<td>3</td>
</tr>
<tr>
<td>10. Course 10</td>
<td>3</td>
</tr>
<tr>
<td>11. Course 11</td>
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</tr>
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<td>12. Course 12</td>
<td>3</td>
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<td>Seq #</td>
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</tr>
<tr>
<td>1</td>
<td>CGS 1070</td>
</tr>
<tr>
<td>2</td>
<td>PHI 1600</td>
</tr>
<tr>
<td>3</td>
<td>COP 1000</td>
</tr>
<tr>
<td>4</td>
<td>MAT 1033</td>
</tr>
<tr>
<td>5</td>
<td>CET 1171C</td>
</tr>
<tr>
<td>6</td>
<td>MAC 1105</td>
</tr>
<tr>
<td>7</td>
<td>CNT 1000</td>
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<td>8</td>
<td>CET 1172C</td>
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<td>9</td>
<td>ENC 1101</td>
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<td>10</td>
<td>SPC 1065</td>
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<tr>
<td>11</td>
<td>CTS 1327</td>
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<td>12</td>
<td>CTS 1328</td>
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<td>13</td>
<td>CTS 2106</td>
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<td>22</td>
<td>CTS 2370</td>
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<td>23</td>
<td>CNT 2940</td>
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</table>

Total program credits: 67

(Includes MAT 1033 & Computer Competency)

1 Part of Computer Support Certificate
2 Part of Linux System Administrator Certificate
3 Part of Microsoft Certified IT Professional: Server Administrator Certificate
4 Preparation Course for CompTia A+ Industry Certification

Term Offered: F - Fall | S - Spring | Su - Summer | Type of Course: Core - Required for the Program | Elective - Options based upon personal interest | Gen Ed - General Education | PreReq - Prerequisite | Subplan - Specific to a particular degree option
Computer Networking Associate in Science

COMPNET-AS

Dr. Sharon SettlerLind, Dean, SP/G, (727) 341-4724
John Long, Academic Department Chair, (727) 341-4724

Program Summary

This program is designed for students to develop a network utilizing the appropriate analytical skills, develop help desk support platforms that facilitate troubleshooting and to develop secure network strategies that maximize value in the information technology environment. This program prepares students to sit for the CompTIA A+, CompTIA Network+, CompTIA Linux+, Cisco Certified Network Associate (CCNA) and Microsoft Certified Solutions Associate (MCSA) industry certifications.

The Academic Pathway is a tool for students that lists the following items:
- the recommended order in which to take the program courses
- suggested course when more than one option exists
- which semester each course is typically offered
- if the course has a prerequisite
- if courses that may lead to a certificate (if offered in the program)

If you are starting the program this term, click here to access the recommended Academic Pathway.

If you have already started the program, click here for the archived Academic Pathways.
<table>
<thead>
<tr>
<th><strong>Pathways Do:</strong></th>
<th><strong>Pathways Do NOT:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Present <em>highly</em> recommended courses and sequence with an “opt out” feature</td>
<td>Replace professional guidance from faculty and advisors</td>
</tr>
<tr>
<td>Recommend specific general education courses and elective courses, based on curricular relevance</td>
<td>Limit students’ options of courses</td>
</tr>
<tr>
<td>Identify “on” and “off” ramps via embedded certificates and industry certifications</td>
<td>Require students to take any additional courses for a specific requirement that was previously satisfied</td>
</tr>
<tr>
<td>Allow for customization and flexibility based on each student’s unique situation</td>
<td>Require students to be full-time or part-time, college-ready or college-prep, online or on campus</td>
</tr>
<tr>
<td></td>
<td>Change due to scheduling or modality</td>
</tr>
</tbody>
</table>
Building the Academic Pathway

Steps - JUST GET STARTED

1. Engage your stakeholders...ALL of them!
2. Determine the current “health” of your curriculum & Building the Pathway
3. Regroup and Reflect

   *Take the next step to making these the BEST tool for students/advisors*

4. Embed Certifications
5. Career & Academic Communities
Step 1: Engage Your “Village”

Collaboration from program administrators, faculty, and advisors is essential to make sure all factors of student progression and success is considered.

- **Program administrators**: accreditation, State, institutional requirements, student success rates across sections/campuses
- **Program faculty**: Industry requirements; student success rates by course; writing/math-intensive courses; field experiences
- **Advisors**: Gateway courses; student feedback; general education requirements
- **General education faculty/deans**: Recommendations on general education courses, based on curricular relevance of programs
Building the Academic Pathway

Step 2: Determine the ‘Health’ of Your Curriculum

- Baseline snapshot of how students move through a program and identify:
  - Progression Patterns
  - Early Gen Ed competency areas
  - Hidden Pre-Requisites
  - Overlapping requirements
  - Toxic Course Combinations

- Redesign the curriculum from a student-centered perspective

- Create a tool for students and advisors to use that will keep students on the path towards completion

*Keep the conversation away from scheduling and focused on MOST students, not the exceptions*
Building the Academic Pathway

AS Program Courses
1. GEN ED: Communications
2. Course 2
3. GEN ED: Math
4. Computer competency
5. Course 4
6. GEN ED: Social/Behavioral SC
7. Course 5
8. Course 6
9. Course 7
10. Course 8
11. Course 9

• Consider groupings from a full and part time student track
• Take a picture of the map and develop your initial chronological list

The Mapping Primer: Tools for Reconstructing the College Curriculum
Ruth E. Stiehl
Step 3: Regroup and Reflect

Identify key learnings from the process: discuss implications to the curriculum and student success:

- Are there general education courses identified at appropriate points to allow student to successfully progress through future courses?
- Are all prerequisites identified and sequenced before the courses for which they are required?
- Is there a balance between theory and application courses each term?
- Are there any terms in which there is a heavy concentration of writing, math or critical thinking courses?
- Area there any support, core, or elective courses that also satisfy a general education requirement? If so, place a dot on that course label.
- Are there any support, core, or elective courses that also satisfy a competency requirement? If so, place a dot on that course label.
Key Learnings – SHIFTING FOCUS

Institutional

• In addition to communications and math, computer competency needs to be met early in most programs
• Shared courses have different prerequisites for students in different programs
• Confusion over articulation rules may cause students to take additional, unnecessary courses
• Some accreditation requirements mandate maximum semesters, making it difficult to build Academic Pathways to Graduation
• We offer too many course choices; we try to meet a variety of career options through one program
• Provided the vehicle for cross-discipline dialogue – all voices contribute

Shifting Paradigms

• We had to get over thinking that we had already done the sequencing
• Believing that this would not work for our program
• Not thinking about scheduling
• Realizing that Gen Ed is an important aspect of a program/student experience
• Learning to advocate for your specialty courses
• Consensus on order sequencing of courses requires collaboration
• Determining which courses provide the best student experience – engaging them in their career goals and meeting basic foundational skills
Step 4: Embedding Certifications

Things to Accept

• The work will be MESSY.
• The process will refine itself as we try it.
• There are no good exemplars to follow

Features of the Industry Certification pathways include:

• Stackable credentials
• Chronological list of all courses within/across programs that prepare students for the certifications
• Identification of alignment to curriculum & gaps
• Development of targeted test preparation
• Promotion of certifications and stackable credentials
• Targeted student advising
Building the Academic Pathway

Step 4: Embedding Certifications = MESSY!!

1.3 Compare and contrast RAM types and features.
   1.3.1 Types
   - DDR
   - DDR2
   - DDR3
   - SDRAM
   - SODIMM
   - RAMBUS
   - DIMM
   - Parity vs. non-parity

Aligning Academic Major Learning Outcomes with Industry Certification Competencies

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Industry Certification:</td>
<td>CompTIA A+</td>
</tr>
<tr>
<td>Courses needed to prepare for the Industry Certification:</td>
<td>CET1171C CET1172C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>220-801 1.0 PC Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
</tr>
<tr>
<td>Configure and apply BIOS settings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Name/Number</th>
<th>CET1171C</th>
<th>CET1171C</th>
<th>CET1171C</th>
<th>CET1171C</th>
<th>CET1171C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Learning Outcome (MLO)</td>
<td>4. The student will utilize documentation, software diagnostics, tools and ports to make repairs to microcomputer equipment following industry standard practices and safety procedures by: a) Using software diagnostic applications and demonstrating diagnostic methods to determine and correct microcomputer problems.</td>
<td>5. The student will determine which parts in a given microcomputer system are most likely to fail by: a) Describing microcomputer components and their respective mean-time-between-failures.</td>
<td>2. The student will determine which parts in a given microcomputer system are most likely to fail by: a) Describing microcomputer components and their respective mean-time-between-failures.</td>
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<td></td>
</tr>
<tr>
<td>Current assignments supporting MLO</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Career and Academic Communities

Start your journey today! Choose from one of the ten career and academic communities to see what opportunities await after you graduate. Take the first step now by going to spcollege.edu

Chart Your Path
Build Your Future

Median First-Year Earnings

<table>
<thead>
<tr>
<th>Career Certificate</th>
<th>$34,218</th>
<th>$44,770</th>
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</thead>
<tbody>
<tr>
<td>Associate of Science Degree</td>
<td>$43,676</td>
<td>$45,862</td>
</tr>
<tr>
<td>Bachelor's Degrees</td>
<td>$41,420</td>
<td>$47,480</td>
</tr>
</tbody>
</table>

Sample and Associate Degrees

Engineering, Manufacturing, and Building Arts

Sample Careers: Electro-Mechanical Technicians, Architectural and Civil Drafters, Electrical and Electronic Engineering Technicians, and more

Median Earnings: $48,100 to $59,000

Health Sciences and Veterinary Technology

Sample Careers: Dental Hygienists, EMT Paramedics, Registered Nurses, Paramedics, and more

Median Earnings: $28,000 to $59,700

Public Safety, Policy, and Legal Studies

Sample Careers: Police Officers, Fire Protection Specialists, Corrections Officers, and more

Median Earnings: $38,900 to $57,000

Science and Mathematics

Sample Careers: Biologists, Geologists, Mathematicians, and more

Median Earnings: $38,900 to $57,000

Human Services and Social/Behavioral Sciences

Sample Careers: Social Workers, Substance Abuse Counselors, Child Care Workers, and more

Median Earnings: $38,900 to $57,000

Arts and Humanities

Sample Careers: Artists, Writers, and Librarians

Median Earnings: $43,676 to $50,000

Technology

Sample Careers: Computer Scientists, Information Analysts, and more

Median Earnings: $50,000 to $57,000

Business

Sample Careers: Sales Representatives, Customer Service Agents, and more

Median Earnings: $38,900 to $57,000

Communication

Sample Careers: Sign Language Interpreters, Journalists, and more

Median Earnings: $34,218 to $44,770

Education

Sample Careers: Early Childhood Education Teachers, Secondary Education Teachers, Special Education Teachers, and more

Median Earnings: $38,900 to $57,000

Technology, Engineering, and Manufacturing

Sample Careers: Engineering Technicians, Drafters, and more

Median Earnings: $43,676 to $50,000

Communication

Sample Careers: Sign Language Interpreters, Journalists, and more

Median Earnings: $34,218 to $44,770
Your pathway to success

Follow this checklist to set and achieve clear career goals

**Engineering Technology A.S. (ENG-AS)**

- Biomedical Systems Subplan with embedded Medical Quality Systems Certificate (MEDQCS-CT) and Engineering Technology Support Certificate (ENGETECH-CT)

**0 TO 15 CREDITS**
- ETI 1001 REGULATORY ENVIRONMENT FOR MEDICAL DEVICES
- ETI 2001 RISK MANAGEMENT AND ASSESSMENT FOR MEDICAL DEVICES
- ETI 2022 CHANGE CONTROL AND DOCUMENTATION
- ETI 2171 QUALITY AUDITING FOR MEDICAL DEVICES
- CGS 1070 BASIC COMPUTER AND INFORMATION LITERACY
- ENC 1101 COMPOSITION

- Visit Career Services & complete assessments
- Discover careers & research (using BLS & OWI)
- Explore degree options & requirements
- Work with Academic Advising to create a MLP
- Familiarize yourself with MySPC, MyCourses, & SPC Email
- Volunteer & join Student Government or a club
- Start a basic resume
- Locate scholarship opportunities

**16 TO 30 CREDITS**
- ETI 1101 INDUSTRIAL SAFETY
- ETI 2041 MEDICAL DEVICE DESIGN AND MANUFACTURING
- ETI 1622 CONCEPTS OF LEAN AND SIX SIGMA
- MAT 1033 INTERMEDIATE ALGEBRA
- MAC 1106 COLLEGE ALGEBRA

- Confirm degree plan matches career goals
- Modify My Learning Plan (MLP) if necessary
- Add Volunteer Activities & Clubs to resume
- A.S. Programs: Attend events related to program & prepare for industry certifications & exams
- A.A. Program: Determine transfer institution
- Make an advising appointment
- Visit Career Services to discuss work-based learning opportunities

**31 TO 45 CREDITS**
- ETI 1420 MANUFACTURING PROCESSES AND MATERIALS
- ETI 1428 DEVELOPING & COACHING SELF-DIRECTED WORK TEAMS
- ETI 2049 CO-OP WORK EXPERIENCE
- ETI 1084C INTRODUCTION TO ELECTRONICS
- ETI 1110 INTRODUCTION TO QUALITY ASSURANCE

- Gain experience in your field (volunteer/internships)
- Build relationships and practice interviewing
- Create LinkedIn Profile & clean up your online presence
- Complete all required courses for credit internships
- Make plans for transfer or continuing at SPC
- Complete degree audit with an advisor
- Update My Learning Plan and resume

**46 TO 60 CREDITS**
- SPC 1017 INTRODUCTION TO SPEECH COMMUNICATION
- PHY 1600 STUDIES IN APPLIED ETHICS
- ETM 1010C MECHANICAL MEASUREMENTS AND INSTRUMENTATION
- ETD 1220C INTRODUCTION TO CAD
- PDS 2041 AMERICAN NATIONAL GOVERNMENT
- HUM 2070 HUMANITIES (EAST/WEST SYNTHESIS)

- Research jobs & companies
- Get references/letters of recommendation
- Complete a graduation check with advisor
- Transition plans for transfer or continuing with SPC
- Apply for graduation & order your cap and gown

**GRADUATION**

Total Program Credits: 60
Total Pathway Credits: 64
Culture Changing

- Needs a forum that is ongoing
- Directed by those on the front lines, supported by Administration
- Collaborative across departments and disciplines
- All work needs to be vetted through the eyes of the student
- All initiatives become supportive of the work – use data to track
- Talk as much as you need but just GET STARTED

Summer Institutes – Completely Voluntary

- Summer 2012 – 25 people Deans, Program Directors, Administration, a few faculty
- Summer 2013 – All lead faculty
- Summer 2014 – All advisors
- Summer 2015 – Workforce staff, Non-credit faculty/staff
- Summer 2016 – 260 people all departments, all disciplines
4 Dimensions of Guided Pathways

1. Clarify paths to student end goals
2. Help students choose and enter a pathway **

Smart Start

<table>
<thead>
<tr>
<th>Official Grade Report Session Cohort Summer</th>
<th>Final Grade</th>
<th>MLP YES</th>
<th>Learning Support</th>
<th>W/WF</th>
<th>Term Withdrawal</th>
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<tbody>
<tr>
<td>Satisfactory</td>
<td>65% (746)</td>
<td>80% (594)</td>
<td>52% (387)</td>
<td>6% (47)</td>
<td>6% (45)</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>29% (333)</td>
<td>44% (145)</td>
<td>11% (38)</td>
<td>18% (60)</td>
<td>14% (49)</td>
</tr>
</tbody>
</table>

- 209 identified not enrolled in other courses
- 118 received grade “U”
- 91 received grade “S”
- Retention of students receiving “S” grade and enrolled for Fall, 72 students
- 19 students receiving “S” grade not enrolled at this time
Culture Changing

4 Dimensions of Guided Pathways

1. Clarify paths to student end goals
2. Help students choose and enter a pathway **
4 Dimensions of Guided Pathways

3. Keep students on path **

4. Ensure that students are learning
4 Dimensions of Guided Pathways

3. Keep students on path **
4. Ensure that students are learning
Culture Changing

4 Dimensions of Guided Pathways

3. Keep students on path
4. Ensure that students are learning ***
Culture Changing

4 Dimensions of Guided Pathways

3. Keep students on path
4. Ensure that students are learning ***
Culture Changing

LEADS TO MANY NEXT STEPS:

• Program Based GPA
  • Connects GPA to Pathway = Progression tracking
• Creating Embedded On/Off Ramps
  • Industry Certifications
  • Mapping Competencies
• Looking carefully at K-12 Articulations & Direct Connection to Universities
• Automate Graduation Process
• Automate Learning Plan Population with Pathways
• AACC Pathways Initiative
  • Changes Onboarding – Intrusive Advising
  • Career Communities
  • Contextualizing the Student Experience
Questions?