



# The Pathway Puzzle: Processes and Practices for Student Success?

Helping Students Enter a Pathway

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Dean, Arts, Sciences and Advising  
QEP Co-chair

# We use the term “pathways” differently (and liberally) in higher education

- Academic alignment of courses
- Streamlining processes
- Intentional, directed and reduced student “choices”
- Sequential, specific student tasks



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TRANSFER TO 4 YEAR

MORE TRAINING

JOB

ALUMNI

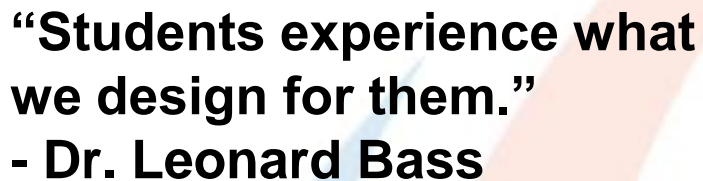
SEND YOUR KIDS HERE

"FIRED"

GO TO PAGE 1 TO GET "RETRAINED"

**SUCCESS!**

DRAWN BY  
GAIL  
"AVAILABLE FOR  
CHILDREN'S BIRTHDAY  
PARTIES"



# Today's pathway definition...

...getting students started on the appropriate academic path leading to their career goals

**How do we enable students to make informed initial and ongoing decisions about their academic and career goals?**



First-year experiences to help students explore the field and choose a major

K–12 partnerships focused on career/college program exploration





How do I start?  
WHERE do I start?  
What tools do I need?  
Who will help me?

To many students, this is what college initially looks like...



## Enrollment Information

to open Fall 2018

Indicate the primary program of study which interests you or the academic major you intend to pursue (Choose only ONE)

\*\*\*Please note that not all certificates/diplomas are eligible for Title I funding (Pell Grant) and are italicized.\*\*\*

### Accounting

- ☐ Associate Degree A25100
- ☐ Diploma D25100
- ☐ Certificate - Income Tax Preparer C25100TO
- ☐ Certificate - Payroll Accounting C25100PO
- ☐ Certificate - Small Bus. Financial Adv. I C25100SI

### Associate in Arts

- ☐ College Transfer A10100

### Associate in Engineering

- ☐ College Transfer A10500

### Associate in Science

- ☐ College Transfer A10400

### Automotive Restoration Technology

- ☐ Diploma D60140
- ☐ Certificate C60140

### Automotive Systems Technology

- ☐ Associate Degree A60160
- ☐ Diploma D60160
- ☐ Certificate C60160

### Barbering

- ☐ Associate Degree A55110
- ☐ Diploma D55110
- ☐ Certificate C55110

### Basic Law Enforcement Training

- ☐ Certificate C55120

### Broadcasting Production Technology

- ☐ Associate Degree A30120
- ☐ Diploma - Radio D3012010
- ☐ Diploma - Television D3012020
- ☐ Certificate - Audio/Radio C3012010
- ☐ Certificate - Video/TV Production C3012020

### Building Construction Technology

- ☐ Associate Degree A35140
- ☐ Diploma D35140
- ☐ Certificate C35140

### Business

#### Administration Track

- ☐ Associate Degree A25120
- ☐ Diploma Business Management D25120MA
- ☐ Certificate Entrepreneur C25120EO
- ☐ Certificate Manager Trainee C25120MO
- ☐ Certificate Retail Management C25120RM
- ☐ Certificate Social Media C25120SO

#### Human Resources Management Track

- ☐ Associate Degree A25120
- ☐ HRM Certificate C25120CO

### Collision Repair & Refinishing Technology

- ☐ Diploma D60130

### Computer Aided Drafting Technology

- ☐ Associate Degree A50150
- ☐ Diploma - CAD D50150
- ☐ Certificate - CAD C50150C
- ☐ Certificate - Solid Modeling C50150S

### Computer Engineering Technology

- ☐ Associate Degree A40160

### Computer-Integrated Machining

- ☐ Associate Degree - CIM A50210
- ☐ Diploma - CIM D50210
- ☐ Certificate - CIM C50210

### Cosmetology

- ☐ Associate Degree A55140
- ☐ Diploma D55140
- ☐ Certificate C55140
- ☐ Instructor Certificate C55160

### Criminal Justice Technology

- ☐ Associate Degree Crim. Just. Tech. A55180
- ☐ Diploma - Crim. Just Tech D55180
- ☐ Certificate Crim. Just Admin - C55180AD
- ☐ Certificate - Crim Just Tech C55180T
- ☐ Associate Degree CJC Forensic Science A5518C

### Culinary Arts

- ☐ Associate Degree Culinary Arts A55150
- ☐ Certificate Fundamentals C55150CF
- ☐ Certificate Farm to Table C55150FT

### Dental

- ☐ Dental Hygiene Degree A55280DH
- ☐ Dental Assisting Diploma A55280DA

### Diagnostic Medical Sonography

- ☐ Associate Degree A55280MS

### Early Childhood

- ☐ Associate Degree A55220
- ☐ Diploma - Early Childhood D55220
- ☐ Certificate - Infant/Toddler Care C55290
- ☐ Certificate - Early Childcare Admin. C55220AD
- ☐ Certificate - Family Home & Early Childhood C55220FH

### Electronics Engineering Technology

- ☐ Associate Degree A40200
- ☐ Certificate C40200

### Esthetics Technology

- ☐ Esthetics Technology C55230
- ☐ Instructor Certificate C55270

### Health Information Technology

- ☐ Associate Degree A55280HT
- ☐ Diploma A55280HT
- ☐ Certificate E-Health Records C45360ER
- ☐ Certificate Healthcare Data Analytics C45360DA

### Healthcare Management Technology

- ☐ Associate Degree A25200

### Health and Fitness Science

- ☐ Associate Degree A55280HF
- ☐ Diploma A55280HF
- ☐ Certificate C45630

### Human Services Technology

- ☐ Associate Degree A45380

### Industrial Systems Technology

- ☐ Associate Degree A50240
- ☐ Diploma D50240
- ☐ Certificate - Electrical Controls C5024010
- ☐ Certificate - Industrial Hydraulics C5024020
- ☐ Certificate - Prog. Logic/Controls C5024030
- ☐ Certificate - Welding C5024040

### Information Technology

#### Computer Track

- ☐ Associate Degree A25590
- ☐ Diploma - CIT D25590
- ☐ Certificate Internet Computing Core (IC3) C25590IC
- ☐ Certificate Database Programming C25590DP
- ☐ Certificate Hardware Trouble Shooting/Repair (A+) C25590HT

#### Networking Track

- ☐ Associate Degree A25590
- ☐ Diploma - Networking Mgmt D25590N
- ☐ Certificate Network Infrastructure (Cisco) C25590NI
- ☐ Certificate - Network Operating Systems C25590NO
- ☐ Certificate Voice Over IP C25590TL
- ☐ Certificate Network Security C25590SE

### Laser & Photonics Technology

- ☐ Associate Degree A40280

### Library and Information Technology (Online)

- ☐ Associate Degree A55310
- ☐ Diploma D55310
- ☐ Certificate - Library Basics C55310G0
- ☐ Certificate - Library Cataloging C55310C0
- ☐ Certificate - Library Management C55310M0
- ☐ Certificate - Library Programs C55310LD
- ☐ Certificate - Library Public Service C55310P0
- ☐ Certificate - Library Technical Ser. C55310T0

### Manicure and Nail Technology

- ☐ Certificate C55400

### Medical Assisting

- ☐ Associate Degree A55280MA
- ☐ Diploma A55280MA

### Medical Office Administration

- ☐ Associate Degree A25310
- ☐ Certificate - Med. Mach. Transcript. C25310TO
- ☐ Certificate - Med. Office Insurance Coding C25310IC

### Motorcycle Mechanics

- ☐ Diploma D60260
- ☐ Certificate C60260

### Nursing

- ☐ Associate Degree Nursing A55280NR
- ☐ Practical Nursing Diploma A55280PN
- ☐ Nurse Aide Diploma D45970

### Office Administration

- ☐ Associate Degree A25370
- ☐ Diploma D25370
- ☐ Certificate - Info. & Word Process. C25370W0
- ☐ Certificate - Receptionist C25370R0

### Paralegal Technology

- ☐ Associate Degree A25380
- ☐ Diploma D25380

### Sustainable Agriculture

- ☐ Associate Degree A15410
- ☐ Certificate C1541010
- ☐ Certificate Sustainable Livestock C1541020
- ☐ Certificate Sustainable Vegetable Production C1541030

### Sustainability Technologies

- ☐ Associate Degree A40370
- ☐ Certificate Sustainability C40370S
- ☐ Certificate Green Building C40370GB
- ☐ Certificate Renewable Energy C40370RE
- ☐ Certificate - Biofuels C40370B

### Veterinary Medical Technology

- ☐ Associate Degree A55280VT

### Welding

- ☐ Associate Degree A50420
- ☐ Diploma D50420
- ☐ Certificate C50420
- ☐ Robotics Certificate C50420R

### Special Programs

- ☐ Special Credit- Non-degree seeking-T90900
- ☐ Chatham Early College - Chatham School of Science and Engineering - A10400EC
- ☐ Harnett Early College High School A10100EC
- ☐ Lee Early College High School A10100EC
- ☐ Basic Skills Plus T90950

### Other

- ☐ Other \_\_\_\_\_

to open Fall 2018

r you intend to pursue (Choose only ONE):

By the way, what is...

- A certificate? Diploma?
- "Special" credit?
- The difference between dental assisting and dental hygiene?
- The program for "teaching"?
- Health information technology?
- Sonography?
- Biology?
- Why are there different engineering types?
- So many business options?





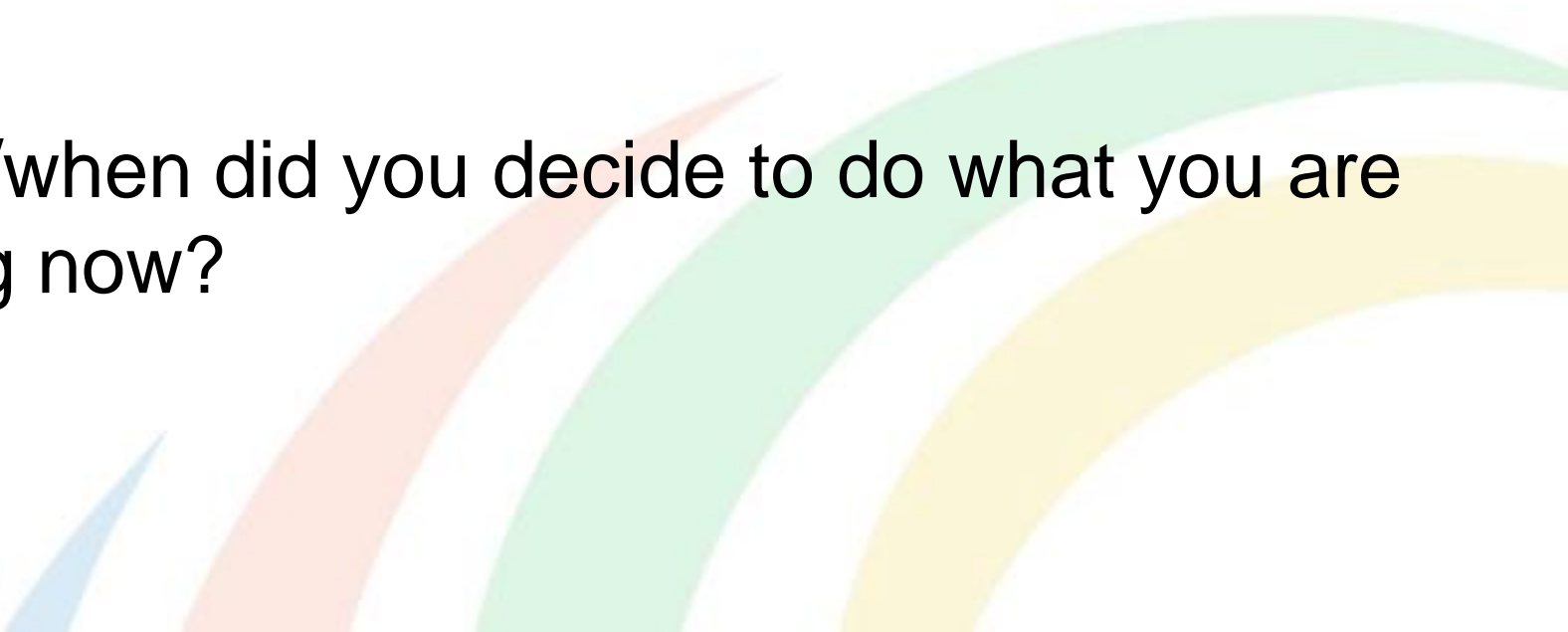
parking wines

champagne





Take three minutes and discuss these two questions with people near you...

- How/when did YOU pick your major/program of study?
  - How/when did you decide to do what you are doing now?
- 



# Career decision (and program decision) process is involved...

Many students struggle with the career decision process

- Information deficits
- General indecision
- Personal concerns

*Career Advising: An Academic Advisor's Guide, V. N. Gordon*



# What did our data indicate?

“Pre-advised” by their family and friends

Lack of information about programs, careers, and how they align

Frequent program changes, non-completion

Students changing after 12, 24, and even 36 hours

Some programs had 60% attrition or more

Students accumulating excess hours more than program required

Many UT students indicate a major and/or university but have little career focus



# Our challenge?

**How to get students to select a program (pathway?) in a more informed way**



Additional considerations...

- First-generation students
- Disproportionate impact of the first semester
- Student lack awareness of programs they may enjoy
- Students citing lack of career assessment
- Lack of career awareness

# Goals and learning outcomes



- **Goal 1: Enable students to select appropriate academic programs (Goals)**

- Goal 2: Consistently enhance the student's pathway to goal completion (Progress)

- Goal 3: Facilitate timely completion of students' academic goals (Success)

## Student learning outcomes:

- SLO 1. Students will make an informed program selection upon enrollment.
- SLO 2. Students will create an academic plan consistent with their goals.
- SLO 3. Students will be aware of and utilize career services and faculty advising to enhance timely progress toward goal completion.
- SLO 4. Students will achieve continued, measurable progress toward timely completion of academic goals.

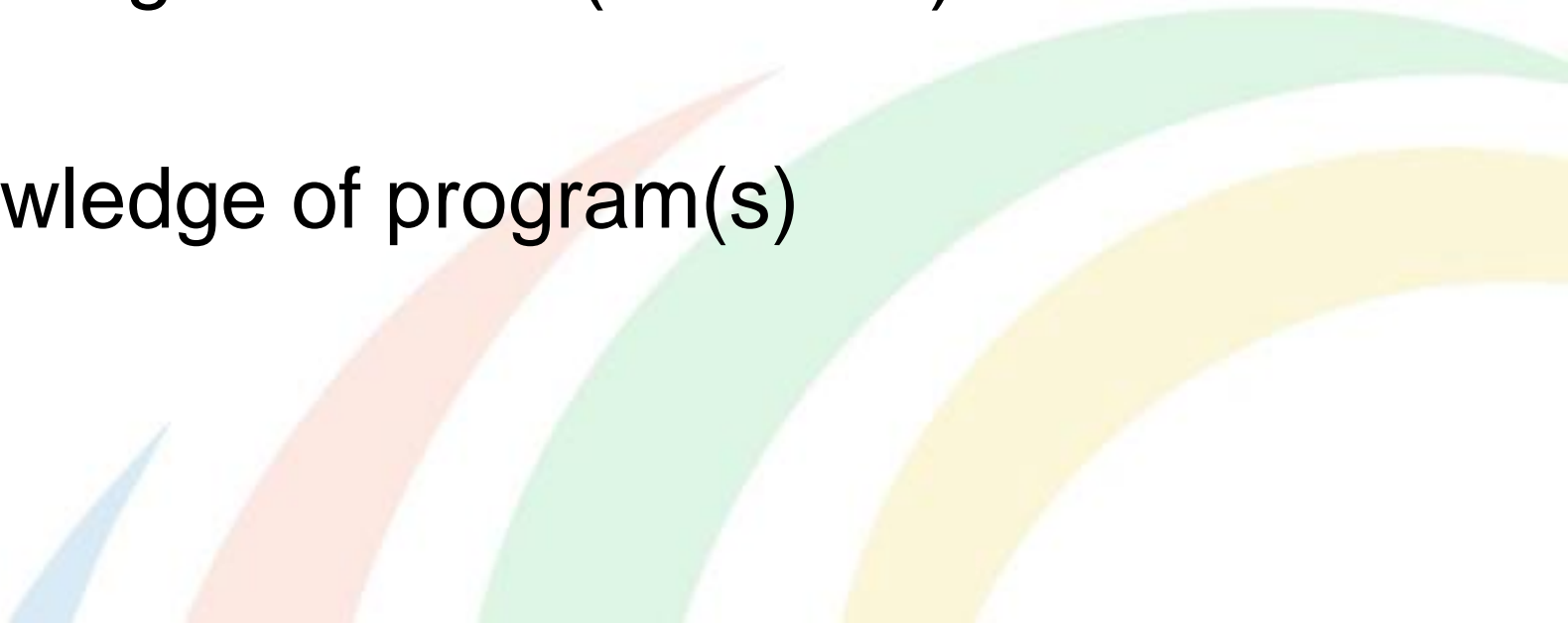


# Actions/interventions

As part of MAP, students will...

- ...complete an assessment of interests and career decision readiness during admissions and be provided more detailed program information; they will also be directed to appropriate referral and support as needed
- ...take a Pathways ACA class in their first or second semester to begin academic planning, be introduced to campus resources, and refine program/career decisions
- ...receive advising focused on individual academic pathways, career direction, and assistance for goal completion

# Three elements of career/program decision-making process

- Ability to make a career decision (decision readiness)
  - Knowing one's self (interests)
  - Knowledge of program(s)
- 
- The bottom right portion of the slide features a decorative graphic consisting of several overlapping, curved, brush-stroke-like bands in light blue, light orange, light green, and light yellow, creating a sense of movement and depth.



## Complete your NC Residency Determination

All applicants are now required to complete documentation for the [North Carolina Residency Determination Service](#). Residency determination establishes if students should have in-state or out-of-state tuition.

You must complete the NC Residency Determination before completing the college application. Students must use their legal name when completing the NC Residency Determination Service and when applying to the college. A failure to match a student's name between the systems will delay the enrollment process.

## Complete Map: Embark Assessment

Complete the [MAP: Embark Assessment](#). The **MAP: Embark Assessment** will match your interests and abilities to academic programs here at CCCC.



## Welcome!

This quick career inventory is designed to show you career choices that match up with your personal interests and may help you confirm your choice of major or give you thoughts about other career possibilities.

This is not a test, so there are no right or wrong answers.

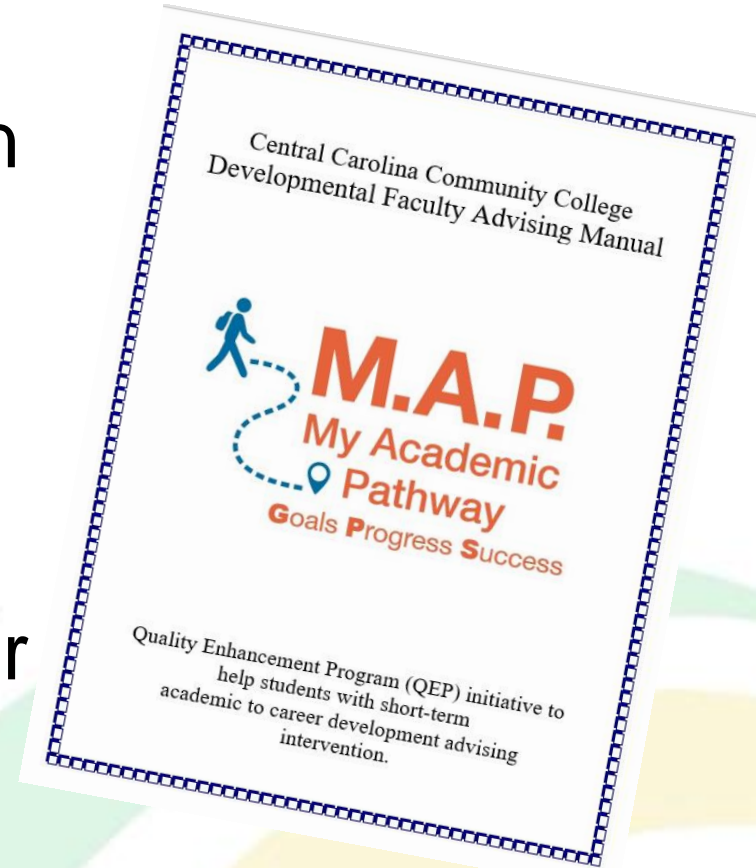
The survey will take about **5-10 minutes**.

# CDI (Career Decision Inventory)

- Based on the work of Leierer et. al. (Career State Inventory)
- Used to measure career decision readiness and career problem solving
- Assesses career certainty, satisfaction and clarity
- Score determines interventions
  - 2-7: referred to a faculty advisor
  - 8-9: referred to developmental faculty advisor
  - 10-12: referred to career center counselor

# Developmental Faculty Advising

- Students with an intermediate career decision (CDI) readiness
- Training developed by career counselors
- Career advising, online inventories, hands-on career activities
- Students then referred to academic advisor or career center counselor





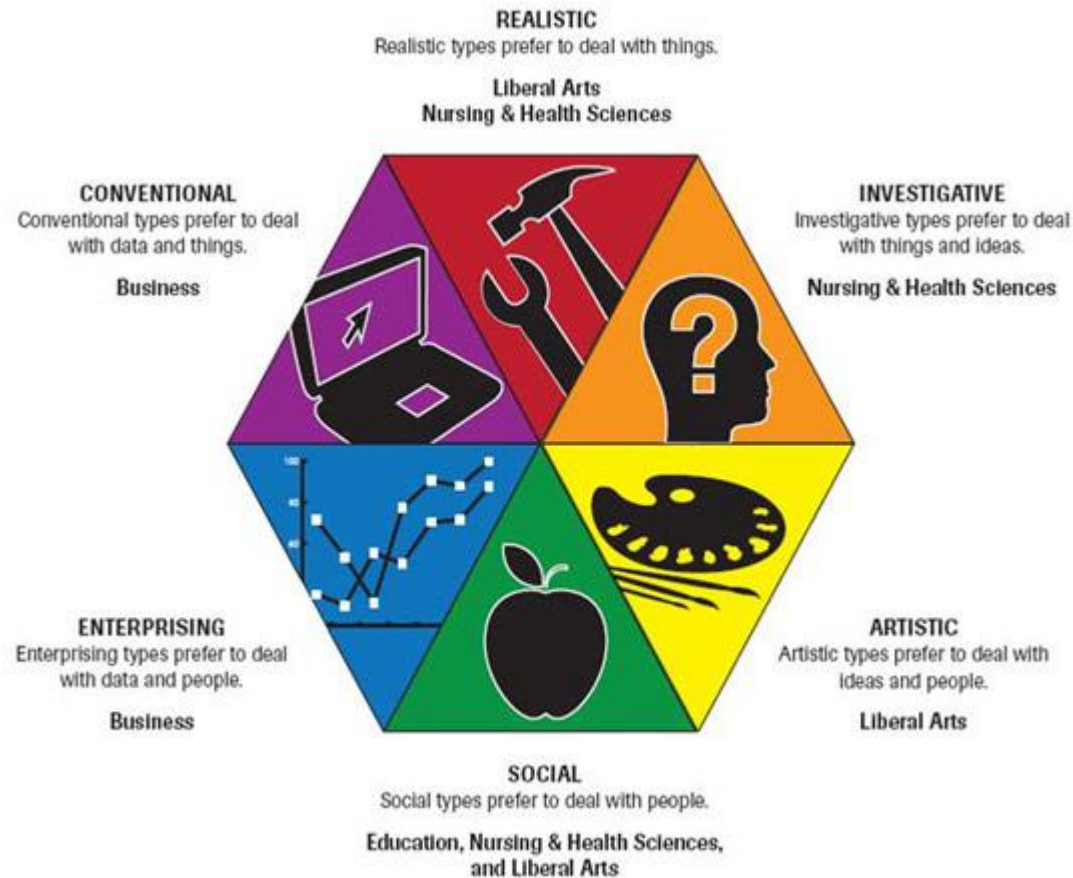
# RIASEC overview



## RIASEC Theory

Based on John Holland's theory of vocational psychology:

- There are six basic personality types.
- There are six corresponding types of work environments.
- Most people and work environments are combinations of more than one type.



# Mapping programs to the RIASEC






















RIASEC Code Descriptions	<u>R - Realistic</u>	<u>I - Investigative</u>	<u>A - Artistic</u>	<u>S - Social</u>	<u>E - Enterprising</u>	<u>C - Conventional</u>
	<b>Realistic</b> occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.	<b>Investigative</b> occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.	<b>Artistic</b> occupations frequently involve working with forms, designs and patterns. They often require self-expression and the work can be done without following a clear set of rules.	<b>Social</b> occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.	<b>Enterprising</b> occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking and often deal with business.	<b>Conventional</b> occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.
<u>Academic Programs</u>	<b>R</b>	<b>I</b>	<b>A</b>	<b>S</b>	<b>E</b>	<b>C</b>
Accounting (25100)					X	X
Automotive Restoration Technology (60140)	X	X				
Automotive Systems Technology (60160)	X	X				
Barbering (55110)			X	X		
Basic Law Enforcement Training (55120)		X				X
Broadcasting Production Technology (30120)			X		X	
Building Construction (35140)	X					X
Business Administration (25120)					X	X
Carpentry (35180)	X					X
Computer Aided Drafting Technology (50150)		X				X
Computer Engineering Technology (40160)		X				X

## M.A.P.: Embark



# Welcome!

This quick career inventory is designed to show you career choices that match up with your personal interests and may help you confirm your choice of major or give you thoughts about other career possibilities.

Like	Unsure	Dislike	
			Operate a grinding machine in a factory
			Examine blood samples using a microscope
			Keep inventory records
			Transfer funds between banks using a computer
			Sell merchandise over the telephone
			Manage a retail store
			Study whales and other types of marine life



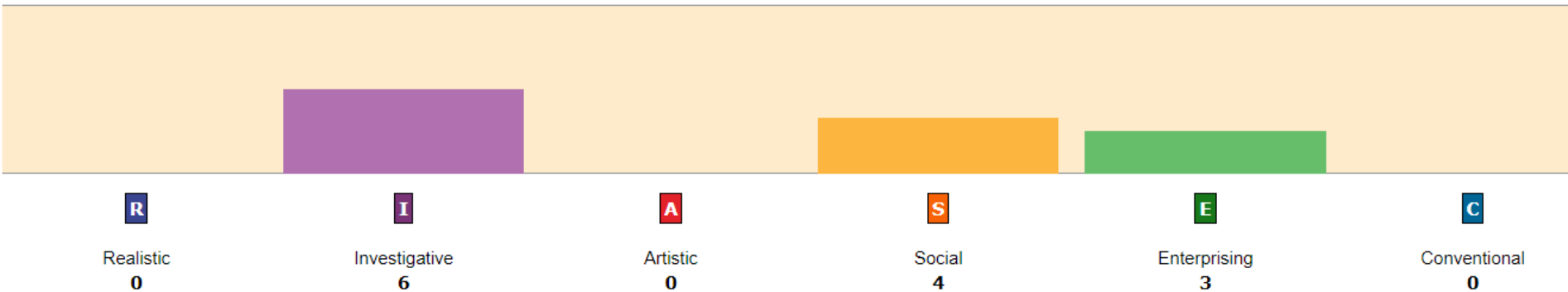
Student ID

Mar 14, 2018 at 11:07 am

- [Student Copy PDF](#)
- [Office Use PDF](#)
- [RIASEC Card PDF](#)

72 total questions

PGM/LOGIC: 002/0



### Career Decision Inventory Questions

3

Please encourage student to follow up with Faculty Advisor in their chosen program as needed.

List all occupations you are considering right now (separate with commas).  
Nursing,

Which occupation is your first choice? If undecided, write "undecided."  
Nursing

How well satisfied are you with your responses to the questions above?  
Very Satisfied

If I had to make an occupational choice right now I'm afraid I would make a bad

### Original Suggested Programs

[Associate Degree Nursing](#)

[Dental Hygiene](#)

[Practical Nursing](#)

[University Transfer: Associate in Arts](#)

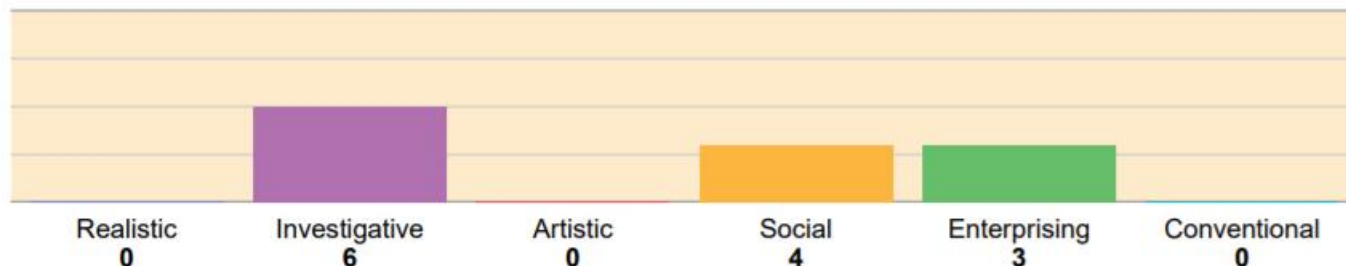
[University Transfer: Associate in Science](#)



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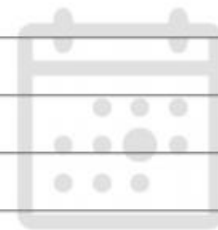
# Emily

## Your Overall Results



## Programs That Match Your Interests

- Associate Degree Nursing
- Dental Hygiene
- Practical Nursing
- University Transfer: Associate in Arts
- University Transfer: Associate in Science



## Your Advisor

Advisor's Name

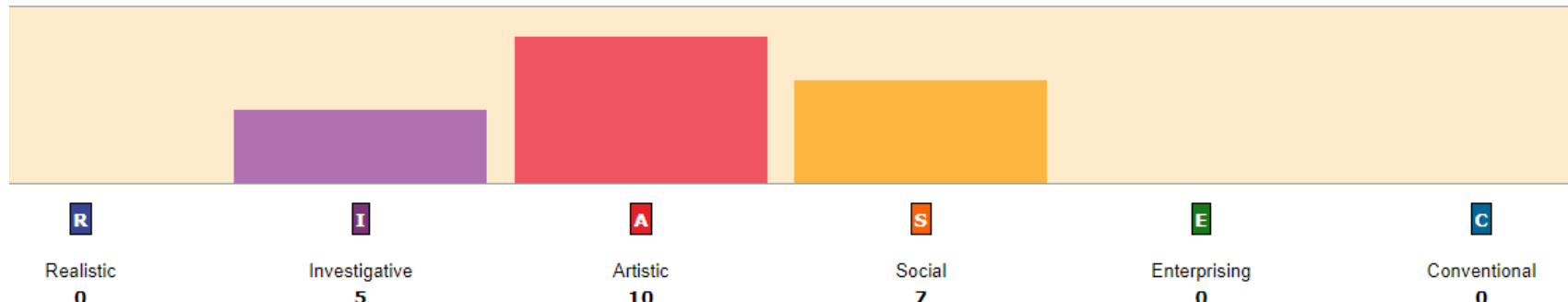
Advisor's Phone

Student ID Save  
 [redacted]@gmail.com  
 [redacted]  
 Mar 14, 2018 at 4:37 pm

Student Copy PDF  
 Office Use PDF  
 RIASEC Card PDF

1 questions

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### Career Decision Inventory Questions

8

Please refer student to Developmental Faculty Advisor.

**List all occupations you are considering right now (separate with commas).**  
 Esthetician, Cosmetology, Nursing, Psychology, Neuroepidemiology, Epidemiology, Music Education, Writing, Creative Director, Stylist, Criminal Psychology, Behavior Analysis

**Which occupation is your first choice? If undecided, write "undecided."**  
 Undecided

**How well satisfied are you with your responses to the questions above?**  
 Satisfied

**If I had to make an occupational choice right now, I'm afraid I would make a bad choice.**  
 True

**Making up my mind about a career has been a long and difficult problem for me.**  
 True

**I am confused about the whole problem of deciding on a career.**  
 True

### Original Suggested Programs

[Barbering](#)

[Cosmetology](#)

[Early Childhood Education](#)

[Esthetics](#)

[University Transfer: Associate in Arts](#)

[University Transfer: Associate in Science](#)



*"After taking the RIASEC, I've realized just how many career choices that there are dealing with medicine, or even things that just spark my interest.*

*For example, I've never really thought about any type of therapy, but after looking into it just a little bit I see that it's something that really does grab my attention that I definitely need to put more thought and research into.*

*I've always been so stuck on nursing because that's just what I've had my heart set on for a while so I never really thought about researching anything else..."*

**-CCCC Student**

# Program Information sheets

Knowledge of programs

## LASER AND PHOTONICS TECHNOLOGY

### ABOUT THIS PROGRAM

The Laser & Photonics Technology (LPT) two-year associate degree program teaches students how to control light and electrical energy to prepare them for careers in photonics and electronics engineering technology. These high-tech, high-paying, career tracks include the research, design, manufacture, sale, and field service of products, like in the rapid-growing field of lasers. Jobs include working on engineering teams to build, test and troubleshoot designs in areas like laser weapon systems, medical instruments, detection equipment, laser fusion energy sources, fiber telecommunications, and industrial laser systems. Acquired LPT technical knowledge and problem solving skills create valuable graduates for these fields.



#### POSSIBLE JOB TITLES:

- Optical Technician
- Optical/Laser Optics Research Technician
- Electronics Technician
- Laser and Optics Repair Technician
- Field Service Technician

#### MEDIAN SALARY:

\$62,190 annually (Electrical and Electronics Engineering Technician);

BUREAU OF LABOR STATISTICS CLUSTER WEBSITE:

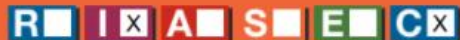
[bls.gov/ooh/architecture-and-engineering/home.htm](https://bls.gov/ooh/architecture-and-engineering/home.htm)

#### JOB PLACEMENT OF RECENT GRADUATES OF THIS PROGRAM:

- Lawrence Livermore National Laboratory
- Cree
- Phononic

#### SKILLS/APTITUDES NEEDED FOR PROGRAM:

- Basic Algebra Skills
- Attention to Detail
- Critical and Independent Thinking Skills



[www.cccc.edu](http://www.cccc.edu)

### DEGREE(S)

Associate in Applied Science in Laser and Photonics Technology (A40280; Harnett Main Campus - day; Lee Main Campus - First Semester Only) – five semesters (summer included)

### DIPLOMA(S)

None

### CERTIFICATE(S)

Certificate in Electronics Engineering Technology (C40200; Lee Main Campus - Day, Harnett Main Campus - Day) - three semesters (Summer included)

### TRANSFER OPTIONS

Yes – East Carolina University and University of North Carolina – Charlotte (Contact the program lead below to discuss transfer options further.)

### ADDITIONAL COSTS OF PROGRAM

Electronics Toolkit (\$25 – \$50)

### STATE LICENSURE/EXAMS/INDUSTRY CERTIFICATIONS

None


### ADDITIONAL ADMISSIONS PROCESS

None

## CONTACTS

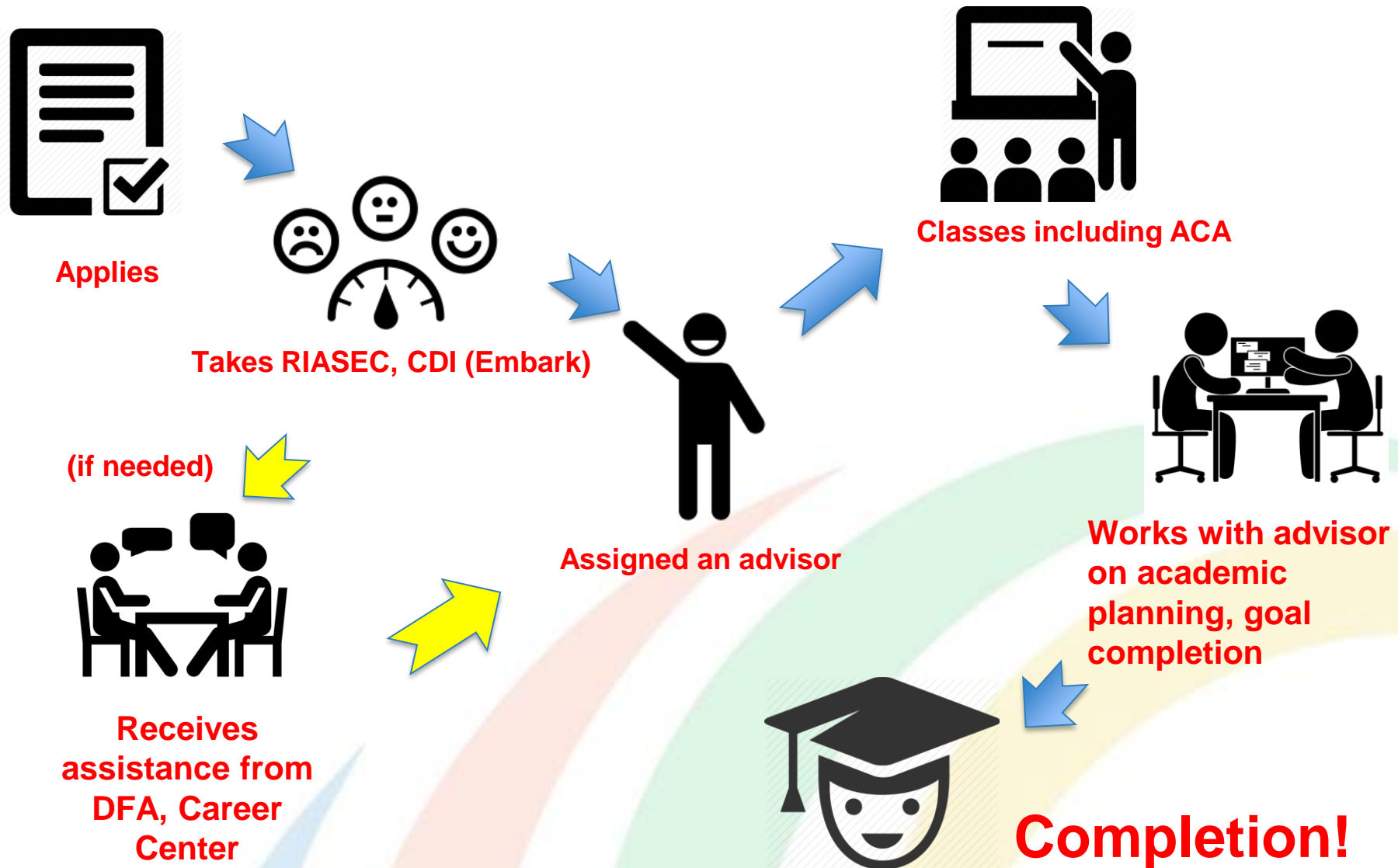
Gary Beasley, Lead Instructor, Laser and Photonics Technology:  
(910) 814-8828 or [gbeasley@cccc.edu](mailto:gbeasley@cccc.edu)

# Briefly...

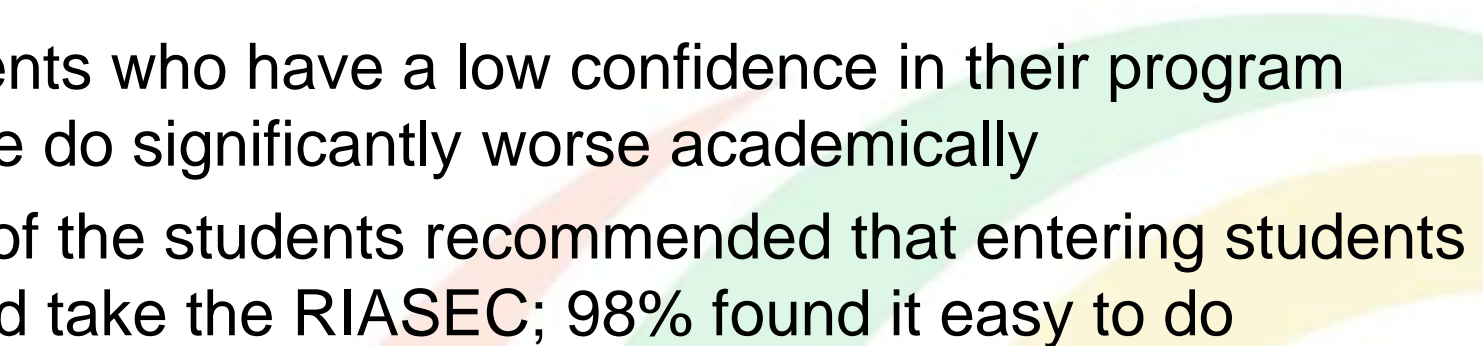
- Clarify paths to student end goals
  - Keeping students on a pathway
  - Ensuring Student Learning
    - ACA requirement first (or second) semester
    - Mandatory advising
    - Advisor access to RIASEC
    - Academic planning in Aviso
- 



# A Student's MAP Experience




# Is it working?

- Most students (75-80%) have selected a program that corresponds to their top two RIASEC categories
  - About 90% of the students who have selected a program outside of their RIASEC categories switch to one which does
  - About 24% of students need additional career conversations based on CDI
  - Students who have a low confidence in their program choice do significantly worse academically
  - 95% of the students recommended that entering students should take the RIASEC; 98% found it easy to do
- 

# How do you implement this at your institution?

- There are versions of the RIASEC available for free; CFNC, <https://www.onetonline.org/>
- If you do not want to make this part of your front door experience, career interest assessment could be a more prominent part of ACA
- Think about grouping programs into RIASEC areas to help make students more aware of other options
- Examine materials and resources that make students aware of program options

The background of the slide features a light blue field with a winding path made of rectangular segments in blue, red, and yellow. Several small groups of people are walking along this path. A semi-transparent red box with a folded corner is positioned on the right side of the image.

It's amazing how  
much easier it is  
to get somewhere  
when you know  
where you're going.



# Questions?

<http://www.cccc.edu/map/>

Scott Byington

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919-718-7425

