DOCUMENT RESUME

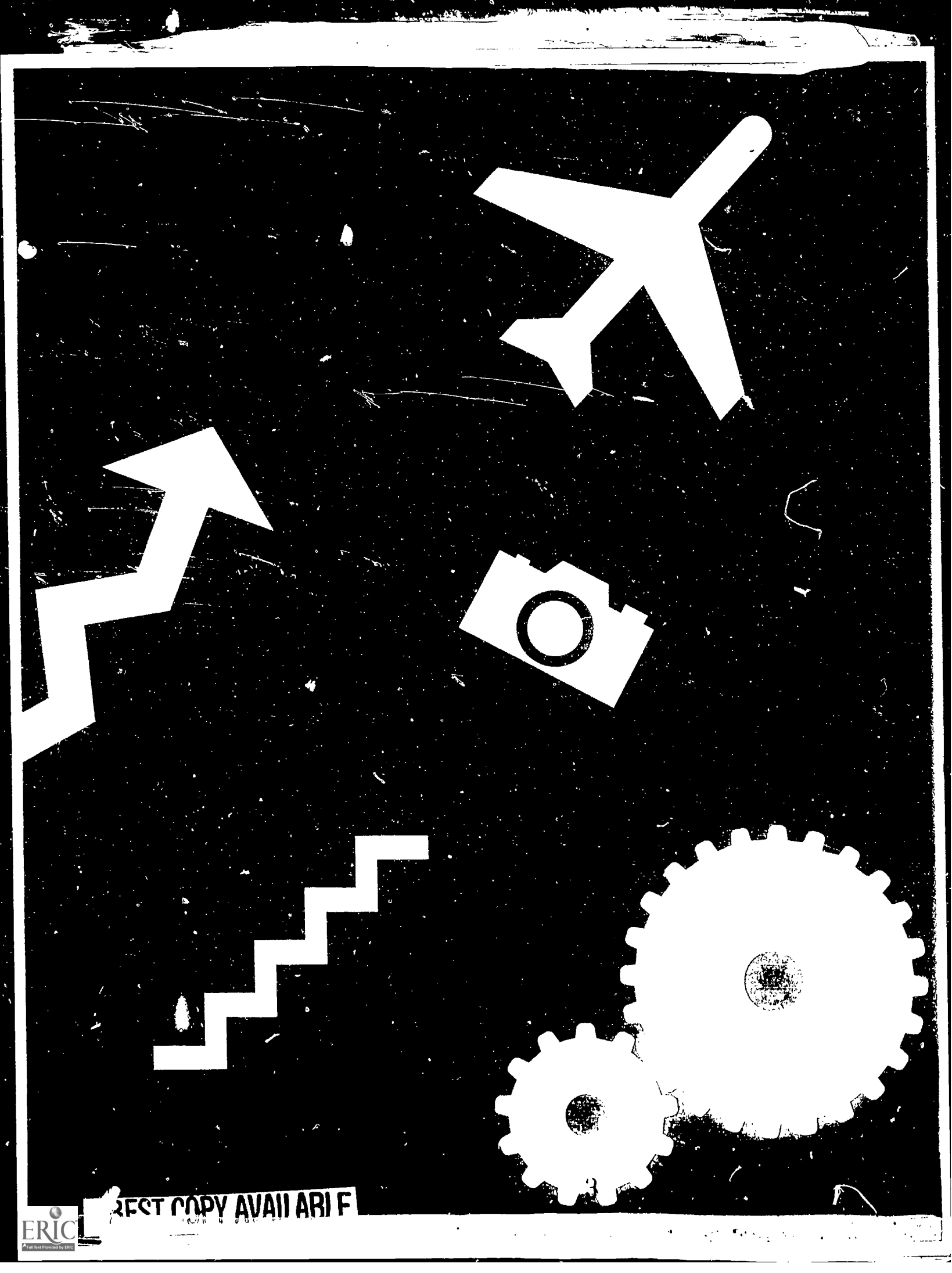
ED 378 347 CE 067 926

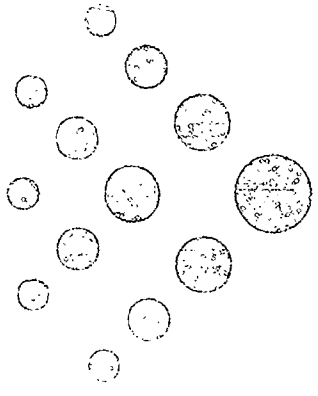
TITLE	Rhode Island Tech Prep Student Handbook. Rhode Island Tech Prep Associate Degree Program. Technical Associate Degree Programs. Business/Office Administration Associate Degree Programs. Allied Health/Associate Degree Programs.
INSTITUTION	Community Coll. of Rhode Island, Warwick.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	[94]
NOTE	29p.; For related documents, see CE 067 924-928.
PUB TYPE	Guides - Classroom Use - Instructional Materials (For Learner) (051)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Allied Health Occupations; *Articulation (Education); Associate Degrees; Business Education; Community Colleges; Competence; *Curriculum Development; *Educational Change; High Schools; *Integrated Curriculum; Minimum Competencies; Office Occupations Education; *Program Development; Program Implementation; Technical Education; *Tech Prep; Two Year Colleges
IDENTIFIERS	*Rhode Island

ABSTRACT

This student handbook begins with an introduction to and rationale for the Rhode Island Tech Prep Associate Degree Program. Tech prep student success stories are followed by two sections that discuss why the student needs a tech prep program and what the Rhode Island Tech Prep Associate Degree Program is. Benefits that tech prep students enjoy are highlighted. The following section lists the competencies that are recommended for the high school mathematics and English portions of the tech prep program. The last three sections of the handbook provide specific information on each of the three types of tech prep programs at the Community College of Rhode Island (CCRI): technical programs, business/office administration programs, and allied health and dental health programs. Each section contains the curriculum requirements at the high school level, required courses at CCRI, general information on the program and the occupation and courses of study at CCRI. (YLB)

HANDBOOK





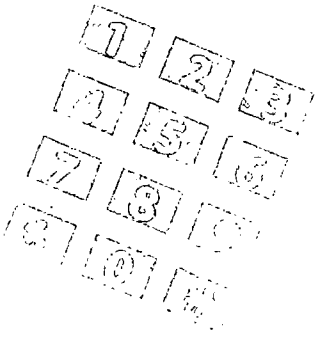
RHODE ISLAND
TECH
PREP

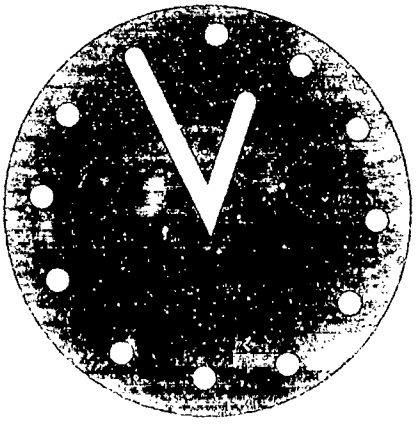
Rhode Island Tech Prep Associate Degree Program

Technical Associate Degree Programs

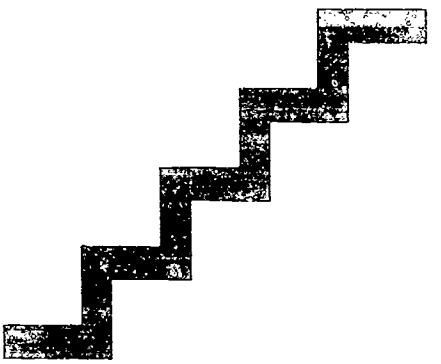
Business/Office Administration Associate Degree Programs

Allied Health Associate Degree Programs





Community College of Rhode Island
400 East Avenue, Warwick, Rhode Island 02886 401.825.2143 TDD 401.825.2307



CONTENTS

TECH PREP ASSOCIATE DEGREE STAFF

Judith Marmaras
Program Director
Patricia Neri
Program Coordinator
Andrea MacQueen
Evaluation Technician
Cheryl Serra
Marketing Coordinator

PARTICIPATING TECH PREP ASSOCIATE DEGREE HIGH SCHOOLS:

Barrington High School
Bristol/Warren High School
Burrillville High School
Central High School
Central Falls High School
Chariho Regional High School
Chariho Vocational Technical Facility
Coventry High School
Cranston High School East
Cranston High School West
Cranston Vocational Technical Facility
East Greenwich High School
East Providence High School
East Providence Vocational Technical Facility
Hanley Vocational Technical Facility
Johnston High School
Narragansett High School
Newport Vocational Technical Facility
North Kingstown High School
North Providence High School
Pilgrim High School
Tiverton High School
Toll Gate High School
Warwick Veterans Memorial High School
Warwick Vocational Technical Facility
Westerly High School
West Warwick High School
Woonsocket High School
Woonsocket Vocational Technical Facility
Davies Vocational Technical Facility

The rest of your life can seem like an awfully long time, particularly when you're trying to decide what you want to do with it. Just because you aren't 100% certain about what you want to study after high school or which career you want to pursue doesn't mean you can't begin to plan for the future. A lack of career planning could mean that you will be destined to a lifetime full of boring, go-nowhere jobs or, worse yet, frequent periods of unemployment. **Think about it - you'll probably be working for most of your adult life. So isn't it worth it to take a little time now to prepare for a career or profession which will keep you interested in your work and motivated to excel rather than to think about it when it may be too late?** The Rhode Island Tech Prep Associate Degree Program (TPAD) may be just the Program for you. The Tech Prep Program is a partnership between many high schools in Rhode Island and the Community College of Rhode Island which provides students with the opportunity to explore three career paths - Technical Programs, Allied/Dental Health, and Business/Office Administration. In each of these program areas, there are still more options for courses of study for students. If you enroll in the Tech Prep Program at your high school, you will be well-prepared to come to the Community College of Rhode Island, where you may complete the requirements of a two-year college degree. Then, armed with the academic foundation, specific occupational skills and a clearer idea of what interests you and what career course you may like to follow, many options are available to you. Among these choices are seeking employment, participating in an apprenticeship, or continuing your education at a four-year institution. **You see, the Tech Prep Program is about increasing your options. It's about preparing yourself for the technological and competitive workplace that awaits you.** Without the training and education necessary to compete in this emerging workplace, you may find yourself without a job and without prospects of a successful future . . .

Tech Prep Success Story - Michael Morsilli

Eighteen-year-old Michael Morsilli wouldn't be where he is today - enrolled at the Community College of Rhode Island - if it weren't for the Rhode Island Tech Prep Associate Degree Program. In fact, if he had continued in the college preparatory track, graduation would have been an unlikely prospect.

When Michael entered Johnston High School, he registered for college preparatory courses. These courses, he believed, would prepare him for the four-year college degree he planned to attain. By the middle of his sophomore year, however, he knew his educational plan needed revision. Although he was performing fairly well in these classes, Michael said he was not enjoying them. He felt that if he didn't understand a lesson when it was initially taught, the lesson was lost to him forever. It was then that Michael's guidance counselor encouraged him to enroll in the Tech Prep Associate Degree Program.

Michael was enrolled in the three core courses of the Program - Principles of Technology, Communications, and Mathematics for Technology - for his final two years of high school. He speaks highly of the Program and what it has helped him to achieve: "It's a smaller group in class and you feel like they're all your friends. The teachers set up the labs and then let you do them on your own. But if you can't handle it, they help you out."

In addition, Tech Prep instructors teach the same course content that Michael was learning in his college prep courses, but in a hands-on manner. And if students don't grasp a particular concept, it is reviewed in class until all students understand the material.

Michael says he and other students in the Tech Prep Program, many who had been frustrated by a lack of success in other programs, were excited by their achievements in Tech Prep classes.

Michael tries to envision what his life would be like now if he had not enrolled in the Tech Prep Program: "I probably wouldn't be graduating from high school because I wouldn't have succeeded."

Michael is now such an avid advocate of the Program that he recently addressed a group of out-of-state educators who visited Johnston High School to learn more about the Program. There is a national movement to implement tech prep programs in every state, and many educators have come to Rhode Island to see the real Tech Prep success stories.

Tech Prep Success Story - Frederick J. Woodhouse III

Despite the fact that he almost failed high school, twenty-two-year-old Frederick J. Woodhouse III says that he has always enjoyed learning.

As a ninth grade student, Frederick said he failed five out of the seven courses he was taking. By the tenth grade, he spent much of his time playing football and his grades continued to drop.

In the eleventh grade, Frederick was enrolled in the Principles of Technology, the only Tech Prep course offered at his school. He said that even though he didn't really apply himself, he knew that he was good at understanding theories and concepts. With the hands-on nature of the Principles of Technology, it was encouraging to see those theories put to work.

Today, Frederick is a graduate of the Community College of Rhode Island, where he received his Associate in Applied Science Degree in Chemical Technology. And rather than worrying about whether he will fail another class, one of Frederick's major concerns these days is whether he should go to school full-time next fall and work part-time or vise versa. He has applied to both the University of Rhode Island and Rhode Island College. His plans are to double-major in Chemistry and Philosophy and then go on to earn a Master's degree or PhD. His ultimate aspiration is to become a college professor.

"Isn't that strange coming from a kid that wasn't going to graduate from high school?" Frederick asks. He says that one of the reasons he decided to continue his education was that he knew that he could; the guaranteed acceptance to technical programs at the Community College of Rhode Island was a benefit which was difficult to resist, particularly because of his academic performance in high school.

"I've always loved to learn," he says, "but I may not have shown it all the time."

Tech Prep Success Story - Jennifer Horne

When Jennifer Horne was in the tenth grade at Central Falls High School in northern Rhode Island, she felt as if she was in academic limbo. While she knew she was a bright student, her grades were not reflecting her abilities. The reason, she says, was that she wasn't really motivated in her classes. She was bored by the manner in which they were taught, she recalls. While unmotivated and "tired of school", Jennifer never seriously contemplated dropping out.

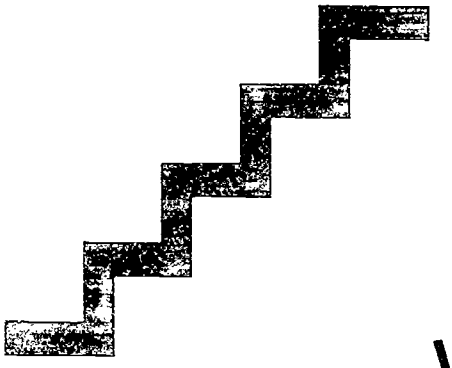
"It would have been like throwing 12 years of school down the drain, and what kind of job could I have gotten without an education?" she asks.

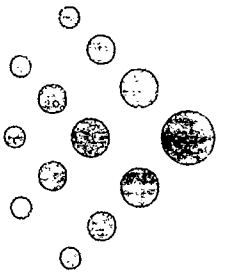
Then her guidance counselor told her about the Tech Prep Associate Degree Program, explaining that the Program may rekindle her interest in school, particularly in mathematics, a subject she had excelled at in the past.

Jennifer, now entering her senior year at Central Falls, responded immediately to the applied curricula. Her grades, which had been average, rose to mostly As and Bs. Just as importantly, however, is that Jennifer's interest in school had been revived.

Jennifer has successfully completed Principles of Technology I and is excited by the prospect of continuing with Principles of Technology II in her senior year of high school. She believes the foundation she received in PT I will prepare her for the second year of the applied physics course. She realizes she is the type of student that needs to know that what she is learning is progressive, that lessons have a logical relation to later lessons rather than learning topics which are seemingly unrelated and fragmented.

In addition to successfully completing the Tech Prep Principles of Technology course, Jennifer has also successfully completed College Accounting. With her senior year upon her, Jennifer is considering what to do after high school graduation. The Community College of Rhode Island is an option she is seriously considering. As for her career path, Jennifer said she is contemplating both a technical career and a career in accounting, since both are subjects in which she excels. The choices seem to have become easier for Jennifer after enrolling in the Tech Prep Program.





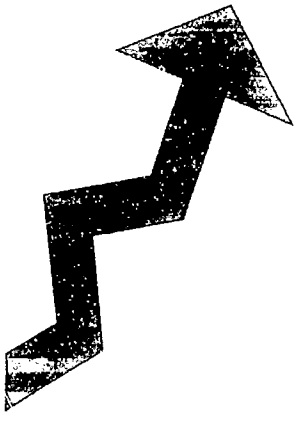
Why do I need a Tech Prep Program?

The Rhode Island Tech Prep Associate Degree Program was developed in response to the changing demands of the American workplace. Business leaders were having difficulty finding employees who possessed the skills and knowledge necessary to compete in an increasingly technological global economy. The United States had been losing its winning edge over employees in other countries who could produce goods as quickly as we but in many instances, less expensively.

A national educational report states that by the year 2000, 70 percent of the jobs in America will *not* require a four-year college degree. However, three out of four job classifications *will* require an education beyond high school.

The year 2000 is not so far away.

In addition to developing a well-prepared work force, the Rhode Island Tech Prep Program has been established in order to offer an alternate program of study for students enrolled in high school educational programs which prepared them neither for college nor for work. These students, perhaps students like yourself, may not be motivated to succeed in school because they wonder, "Why should I learn this?" or "What has this lesson got to do with my life or the real world?" In other words, the Tech Prep Program is aimed at students who need to see a direct connection between what they learn in school and the usefulness of these lessons outside the classroom.

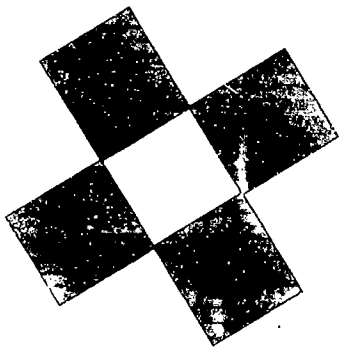


With the hands-on approach to learning utilized in the Program, you will actually see how the lessons you learn are relevant to you and the work you will do outside the classroom. And by working side-by-side with other classmates and your instructor, you will be working in teams much like those which will be utilized in the workplace of the future. People in these teams will share ideas, work together to find the best answer to a problem or develop the best strategy for reaching a particular goal.

In essence, the Tech Prep Program is aimed at providing you with academic and employment skills which will be crucial to your success in the world of work.

What exactly *is* the Rhode Island Tech Prep Associate Degree Program?

The Rhode Island Tech Prep Program is a college prep program which begins in high school and concludes with a two-year college degree from the Community College of Rhode Island. The Tech Prep Program is aimed at preparing you for employment or continued study in the following areas: industrial technology, engineering, engineering technology, allied health, dental health, business administration or office administration.



There are several ways in which a student may enroll in the Program. A high school guidance counselor or a teacher may identify a student as one who would benefit from the Program. A student may hear about the Program and inquire about it at the guidance department. Students are generally selected for the Program in the ninth or tenth grade. By the eleventh grade, they enroll in classes such as Principles of Technology, Communications and Mathematics for Technology (these classes may have different names in different high schools). Other Tech Prep classes offered in some high schools in Rhode Island are Applied Biology/Chemistry, College Business, College Accounting and Electronic Office Procedures.

If you are enrolled in a Tech Prep class, you will learn in a different manner than students in the traditional four-year college preparatory or general education programs. As a Tech Prep student, you will participate in many hands-on activities such as labs and workshops. Tech Prep students see the relationship of what they learn in their classes and how it is useful in everyday life and in the world of work.

Unlike other classes in which you may have been enrolled, in Tech Prep classes students regularly work together with other students and with the instructor. In the past, this was called cheating. In the Tech Prep Program, it is called cooperative learning, and it is a concept which is increasingly utilized in the workplace.

For example, in a Communications class, groups of Tech Prep students may research a particular topic, interview people who know about the topic, and videotape the interview. Through an exercise such as this, students improve their verbal, research, interviewing and videotaping skills. These are skills which are in demand in the workplace.

A typical lab exercise in a Principles of Technology class might be to measure the linear rate or speed at which production items move along a conveyor belt. This type of information will be extremely useful to someone who supervises a production line or someone who wants to determine how quickly a particular product can be moved from one area to another during a specified time frame.

Students who are likely candidates for the Tech Prep Associate Degree Program are those who possess academic ability but may lack the motivation to excel in school, students who do not have a clear idea of what they would like to do after high school, students who like to actively participate in their education, or students who need to see the connection between what they learn in school and how it is applied outside the classroom.

Upon successful completion of the Tech Prep Program in high school, students receive a certificate of completion and are guaranteed admission to specific technical and business/office administration programs at the Community College of Rhode Island. In addition, there are a limited number of guaranteed admission slots for Tech Prep students who plan to enroll in the Community College of Rhode Island's allied health programs. Participation in the Tech Prep Program, however, does not limit the number of program options from which students may choose. Once at the Community College of Rhode Island, students may select from many other two-year college degree courses of study (however, students are not guaranteed admission to these programs based on their involvement in the Tech Prep Program in high school).

Students who have participated in the Program in high school and who decide to enroll at the Community College are allowed to register for classes before other incoming Community College freshmen; in addition, the college waives the application fee for these Tech Prep students. There are several activities scheduled throughout the school year which are aimed at allowing Tech Prep students the opportunity to explore their educational and career options and therefore assist them in making a more sound, sensible decision about their futures.

Here are some of the other benefits Tech Prep students enjoy:

- **Presentations at the high schools and Community College – During the course of the school year, members of the Tech Prep staff visit high schools throughout the state to explain the Program to students, parents and instructors. This orientation provides students with a general overview of all the technical programs that are offered at CCRI. All high school Tech Prep students are regularly invited to the Community College to learn about Program offerings and available support services.**

- **High school seniors in the Tech Prep Program are provided an opportunity to shadow CCRI students who are enrolled in technical programs at the College any time during the school year to get a first hand look at college study.**

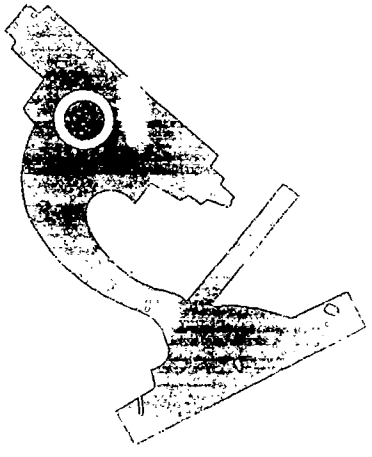
• A senior luncheon is held in January and high school students complete math and English assessments. At this time, Tech Prep students receive assistance with college applications, financial aid and support services.

• Tech Prep students are also invited to attend a number of workshops which are held throughout the academic year and address such pertinent issues as study skills, time management and financial aid.

• Career Days for specific areas, such as allied health, dental health and technical programs, are scheduled annually for Tech Prep high school students. In addition, Career Days provide an opportunity for students to meet with Community College faculty to discuss such concerns as program requirements, job availability in specific fields, and required preparation for the College program of their choice. In many instances, guest speakers from the community speak to students about their career choices and options.

• A full-time Tech Prep Coordinator is available to help students with questions about such concerns as course selection, preparation required to enroll at CCRI, and the transfer of credits from the Community College to another educational institution.

• Additional programs and activities are scheduled for individual high schools upon request.



• The business community is becoming increasingly involved in the Tech Prep Program, providing such services as reviewing curriculum to determine if students are being taught the skills and academic competencies which will be useful in the workplace, allowing visits to their businesses, or helping to develop and maintain a school-to-work transition program.

All of these activities help to increase students' awareness of the career opportunities in high technology and the educational requirements needed to successfully pursue a career in a number of technical fields, as well as to familiarize students to the Community College campuses and the facilities which will be made available to them as students.

The Rhode Island Tech Prep Associate Degree Program increases your opportunities of becoming successful in this changing world. If you wish to receive more information about the Program, please call (401) 825-2143.

Tech Prep Competencies at the High School Level

Students interested in the Rhode Island Tech Prep Associate Degree Program should enroll in as many Tech Prep courses as possible at the high school level. In addition, students' math selections should prepare them to take Algebra for Technology at the Community College level and to successfully complete the math placement test that is administered at the end of their senior year. This will ensure that Tech Prep students are well-prepared to meet the challenges of the many technical programs they may enroll in at the Community College.

The following competencies are recommended for the high school math and English portions of the Tech Prep Program.

Math

1. Students begin studying math in the 9th grade and take at least one math course each year through grade 12;

2. By the end of the 12th grade, students should be proficient in elementary algebra. Students who are proficient at the intermediate algebra level will be able to choose one of the more advanced technical programs;

3. The students should have the following skills in arithmetic:

a.) working knowledge of addition, subtraction, multiplication, division facts and number concepts

b.) ability to add, subtract, multiply, and divide whole numbers, fractions and decimals

c.) find the least common and the greatest common factor

d.) convert fractions to decimals and decimals to fractions

e.) convert fractions to decimals and percents and reverse the process

f.) find the rate, base, and percentage

g.) solve ratio and proportion problems

h.) find rate of increase and rate of decrease

i.) solve numerical geometric and trigonometric problems

j.) understand the concept of exponents and be able to raise a number to any power

k.) solve arithmetic word problems

l.) round decimals to the required number of places

m.) use the metric system of measurement

n.) use approximations to determine if an answer is reasonable

4. Tech Prep students should have the following geometric skills;

a.) Understand and use the following properties

- a circle-radius, diameter, circumference, area
- a rectangle-length, width, perimeter, and area
- a triangle-side, length, altitude, perimeter, angular measurements, and area
- a right triangle-pythagorean theorem
- a rectangular solid-length, width, height, area of the sides, and volume

•a cylindrical solid-radius, diameter, circumference, area for surfaces, and volume

•a triangular solid (prism)-length, triangular side lengths, triangular altitudes, triangular-angles, area of plane surfaces, and volume

b.) Each of these figures should be looked at in a real-life situation

c.) The students should understand how to construct and interpret graphs, such as circle, bar, and line graphs

5. Students being considered for enrollment in the TPAD Program should have the following algebraic skills:

a.) add, subtract, multiply and divide signed numbers

b.) solve linear equations (non-fractional, fractional, decimal, forms with and without parenthesis)

c.) simplify algebraic expressions

d.) factoring; students should be able to find common factors, special products, trinomials

e.) solve quadratic equations - factoring, completing the square formula

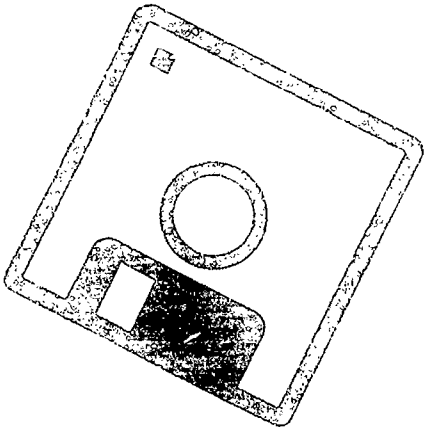
f.) graph linear and quadratic functions on the x-y coordinate plane

g.) given an algebraic formula, a student should be able to solve for a specific letter

h.) solve algebraic word problems

i.) solve two simultaneous linear equations

j.) properties of exponents and radicals



English

English 1010, or Composition I, is the basic English course required for CCRI technical programs. If, after taking the English placement test, a student isn't ready for English 1010, the student may take English 1050, Fundamentals of Writing, in its place. However, some programs require that students also successfully complete English 1010. English 2100, Technical Report Writing, and English 1100, Oral Communications, are required by some of the technical programs.

The following guidelines have been recommended for the high school English portion of the program and a student who has the following competencies should be prepared for English 1010:

a.) Write complete sentences - no fragments and no run-ons

b.) Write organized single paragraphs

c.) Outline

d.) Write short essays

e.) Grammar: know subject, verb, adjective

f.) Punctuation: know comma, period, apostrophe, quotation, colon

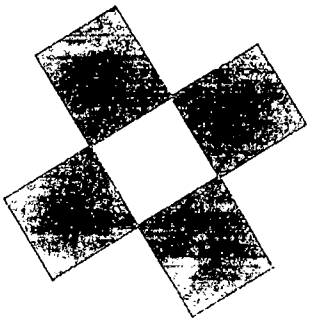
g.) Critical reading

h.) Critical thinking skills

i.) Research skills

j.) Study skills

Technical Programs



Technical Curriculum at the High School Level

GRADE 11
Principles of Technology I
English/Applied Communications
* Math (Applied Math I, Applied Math II, Elem. Algebra Part I, Algebra I)
Physical education
Other required coursework
Electives

GRADE 12
Principals of Technology II
English/Applied Communications
* Math (Applied Math II, Elementary Algebra Part II, Algebra II, Geometry)
Physical education
Other required coursework
Electives

Technical Curriculum at the Community College Level

The general education requirements, or academic requirements which all Community College Tech Prep students must successfully complete, are the following:

- Composition I or Technical Report Writing
- Fundamentals of Writing
- Algebra for Technology or Technical Math I and II
- Trigonometry for Technology
- Technical Physics or Physics for Technology I, II

In addition to the general education requirements, the following are Associate Degree courses of study for specific Technical Programs:

(NOTE: Salary information provided in the following section was supplied by the Rhode Island Department of Employment and Training, The Division of Labor Market Information as well as the 1991 Community College of Rhode Island Report on Career Placement and Transfer of Graduates. Information for both publications was gathered in 1991. Please keep in mind that the salary information is subject to change and is provided to offer students an estimate of Rhode Island salaries for employees in a particular field. Also keep in mind that courses of study may change. Please refer to the most recent course catalog for current information.)

Chemical Technology

In the chemical technology program at CCRI, the emphasis is on laboratory applications and techniques. Students will develop a fundamental understanding of general, organic, and analytical chemistry. This program offers students a core of chemical information which places more emphasis on the hands-on applications of chemical technology than on theory.

Career information: This two-year program prepares students to enter the chemical field in any one of a variety of capacities including chemical research technician, junior chemist or analytical technician.

Chemical technologists work with chemists and chemical engineers to develop and use chemicals and related products and equipment. Most people in the field do research and development, testing, or other laboratory work. They set up and conduct tests and experiments, measure reactions, and collect and analyze data. Some chemical technicians collect and analyze samples of air and water to monitor pollution levels.

Students considering entering the field of chemical technology should have a strong interest in chemical processes and in science, an ability to work at repetitive tasks toward a desired end result, an ability to work independently and with others, mechanical aptitude and manual dexterity, and good health, eyesight and color perception.

Locally, the following companies have hired students who have successfully completed a chemical technology program at the Community College: Hoechst Celanese Corp., Philip Hunt, Pfizer, Inc., Davol, Polaroid, IBM, Eastern Color & Chemical Co., and Wel Gen Manufacturing. The average starting salary for a person in this field is $24,960.

High school requirements for the chemical technology program at the Community College of Rhode Island include Mathematics for Technology I and II or the equivalent, Principles of Technology, and Communications.

Chemical Technology at CCRI

FIRST YEAR

First semester
Algebra for Technology
General Biology - Zoology
Chemical Technology I
Elective - Liberal Arts or social sciences

Second semester
Trigonometry for Technology
Modern Technical Physics I
Chemical Technology II
Composition I

SECOND YEAR

First semester
Chemical Technology III
Modern Technical Physics II
Intro. to Computers

Second semester
Chemical Technology IV
General Microbiology
Elective - Liberal Arts

Possible jobs for students who complete the Chemical Technology program at the Community College: chemical research technician, laboratory assistant, chemical production technician, junior chemist, analytical technician, electronics, sales representative.

Students who successfully complete this program will receive an Associate Degree in Applied Science.

Electronics

Students enrolled in the electronics program can expect to study the electronic components used in today's society. Students learn how to calibrate and maintain a system. Emphasis is placed on semiconductor usage. The program includes four courses related to computer hardware.

Career information: Students who successfully complete an electronics program may seek employment in areas of maintaining and repairing electronic equipment, repairing computers, research and development, or as a field service representative in various communications fields.

Electronics technicians:

- develop, manufacture and service a wide range of electronic equipment and systems
- assist engineers in the design and fabrication of experimental models of electronic equipment
- set up and repair electronic equipment and systems for consumers
- perform inspection and assembly of complex electronic equipment
- work with radar, radio, sonar, television, control instrumentation, communication equipment, navigation equipment, electronic computers, and data processing equipment. Electronic technicians may specialize in one or more of these areas:
- selling electronic products
- working in research laboratories or test laboratories, as well as in design and engineering offices

The qualifications for an electronics technician are good color perception, manual dexterity, good eye and coordination, patience, attention to detail and ability to work alone.

Locally, the following companies have hired students who have successfully completed the electronics program at the Community College: IBM, Digital Equipment, Honeywell, Codex, Raytheon, G.T.E. Transcom, G-Tech, American Power Conversion, Telecom Technology, Cherry Semiconductor and Narragansett Electric. The annual starting salary of an electronics technician is in the range of $13,500 - $26,000, with the average annual starting salary being $21,167.

The high school requirements for the electronics program at the Community College of Rhode Island are College Algebra or equivalent (Mathematics for Technology I, II, Principles of Technology and Communications).

Electronics at CCRI

FIRST YEAR

First semester
Electrical Fundamentals Lab
Technical Report Writing
Algebra for Technology
Technical Physics
Electrical Fundamentals
Digital Concepts

Second Semester
Trigonometry for Technology
Electrical Circuits
Semiconductor Devices
Measurements for Electronics
Social Science Elective

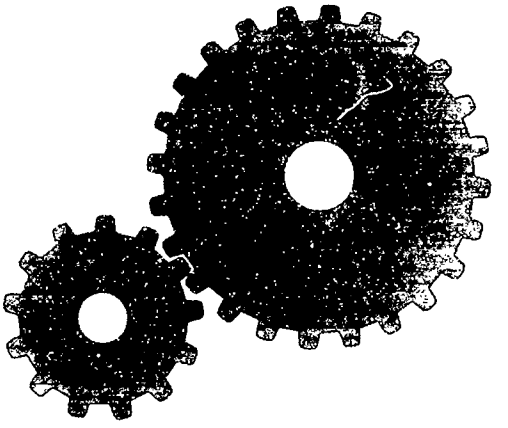
SECOND YEAR

First semester
Computer Applications
Communications
Analog Circuits
Nonlinear Circuits
Elective

Second semester
Microprocessors
Technical Project and Seminar
Special Topics
Elective

Possible jobs for students who complete the Electronics program at the Community College of Rhode Island: electronic technician, electronic systems installer/repairer, developmental electronics assembler, computer repair technician.

Students who successfully complete this program will receive an Associate Degree in Applied Science.



Engineering

An engineer performs abstract designing using design principles and mathematical formulas to solve problems. The engineering program at the Community College of Rhode Island includes a strong foundation in math, basic sciences and engineering fundamentals as well as liberal arts courses. This program is designed to allow students to transfer courses to a four-year Engineering degree program or to obtain employment as an engineering associate or technician.

Career information: Engineering technicians use the principles and theories of science, engineering, and mathematics to solve problems in research and development, manufacturing, sales, and customer service. Their jobs are more limited in scope and more-practically oriented than those of scientists and engineers. Many engineering technicians assist engineers and scientists, especially in research and development. Some technicians work on their own, servicing equipment at customer's work sites. Others work in production or inspection jobs.

Students interested in the engineering program at the Community College of Rhode Island should possess a strong interest in and aptitude for math and science, creativity, and the ability to work with others.

Locally, the following companies have hired students who have successfully completed an engineering program at the Community College: American Power Conversion, PTI Textron, Phillips Circuit Assessment, and General Dynamics/Electric Boat. The average starting salary for these employees is $25,480; the starting salary range is $23,000 to $28,000.

The high school qualifications for the engineering program at the Community College of Rhode Island are two units of Algebra or its equivalent, Principles of Technology, and Communications.

Engineering at CCRI

FIRST YEAR

First semester
Composition I
Pre-Calculus Math*
Engineering Graphics
Intro. to Engineering and Technology
General Chemistry I**

Second semester
Liberal Arts elective
General Elective
Calculus I
Engineering Physics
Scientific Programming

SECOND YEAR

First semester
Calculus II
Intro. to Electrical Engineering
Intro. to Electrical Engineering lab
Engineering Mechanics Statics
Liberal Arts Elective
Physical Science Elective

Second semester
Calculus III
Linear Electrical Systems & Circuit Theory***
Linear Circuits Lab*** (optional)
Mechanics of Materials for Engineering***
Mechanical Engineering Lab (optional)***
2 Liberal Arts Electives
Engineering Mechanics- Dynamics

** Students who register for MATH 1900, pre-calculus math, are required to take a math placement test prior to the beginning of the summer session.*
*** Students who do not pass the chemistry placement test must take CHEM 1020 before taking CHEM 1030, which is a requirement for graduation. Others would normally take CHEM 1030 the first semester.*
**** Any student who wishes to study chemical engineering can replace either the electrical engineering courses or the mechanical engineering courses with CHEM 2230 or CHEM 2270.*

Possible jobs for students who successfully complete the Engineering program at the Community College of Rhode Island: design engineer, applications engineer, project engineer, engineering technician.

Students who successfully complete this program will receive an Associate in Science Degree.

Computer Engineering Technology at CCRI

FIRST YEAR

First semester
Technical Math I
Composition I
Programming in Basic
Fund. of Electricity & Electronics I
Intro. to Engineering & Technology
Engineering Applications of Computers

Second semester
Technical Math II
Fiber Optic Communications
Graphics for Electronics
Electronic Devices & Circuits I
Fund. of Electricity & Electronics II
Liberal Arts Elective

SECOND YEAR

First semester
Physics for Technology I
Data Base Design & Maintenance
Electronic Measurement & Instruments
Digital Electronics
Electronic Devices & Circuits II
Liberal Arts Elective

Second semester
Operating Systems
Scientific Programming
Technical Project
Microprocessors & Microcomputers
Liberal Arts Elective
Electronic Communications II

Possible jobs for students who successfully complete the Computer Engineering Technology program at the Community College of Rhode Island: Computer engineering technicians are needed to assist engineers in the design, development and testing of new devices, and they are needed to install, operate and maintain computer equipment. In industry they may be found in design, in sales, in research and development, or in the field providing technical information and service to the users of computer engineering technology.

The Department of Engineering and Engineering Technology is offering students in the Electronic Engineering Technology Program a chance to acquire heavier concentration in computer education. By modifying the second year only of the EET program, the student is able to work in the Computer Science Department and gain increased expertise in this field.

Students who successfully complete this program will receive an Associate in Science Degree.

Engineering Technology (Electrical and Mechanical)

Scientists and engineers need support people to assist them in various phases of their work, such as design checking, prototype construction and checkout, field testing, and customer contact, to name only a few areas. The engineering technologist is uniquely suited to fill this need since he/she has not only a strong technical background, but also has considerable hands-on laboratory type expertise which can be brought to bear on real-world problems. In many companies there is not a sharp line of separation between the responsibilities of the technologist and the engineer; one is equally reliant on the other for the successful completion of a job.

The electronic engineering technology program educates students as technicians in the design, development and testing of engineering models and systems. Such technicians find positions in industry in the areas of research, design development, sales, or technical service to the users of electronic equipment. Due to the increasing complexity of electrical and electronic equipment, many students decide to extend their knowledge and earn a four-year degree in engineering technology.

Mechanical engineering technicians work with engineers in design and development by making sketches and rough layouts of proposed machinery and other equipment and parts. They record data, make computations, plot graphs and analyze results, and write reports when planning and testing experimental machines. When planning production, mechanical engineering technicians prepare layouts and drawings of the assembly process and of parts to be manufactured. They estimate labor costs, equipment life, and plant space.

The mechanical engineering student, upon successful completion of all the course requirements, will be qualified to seek employment in the design area as well as the manufacturing or industrial engineering department. Students may also choose to continue their education at a college or university that offers a bachelor of science degree in engineering technology.

Career information: Engineering technicians use the principles and theories of science, engineering and mathematics to solve problems in research and development, manufacturing, sales, and customer service. Their jobs are more limited in scope and more practically oriented than those of scientists and engineers. Many engineering technicians assist engineers and scientists, especially in research and development. Some technicians work on their own, servicing equipment at customers' business sites. Others work in production or inspection jobs. Electrical and electronics technicians develop, manufacture, and service equipment and systems such as radios, radar, sonar, television, industrial and medical measuring of control devices, navigational equipment, and computers, often using measuring and diagnostic devices to test, adjust, and repair equipment.

The starting salary range for electrical/electronic engineering technicians and technologists is $9,360 - $27,435, with the average entry level salary at $11,856. The starting salary range for graduates of the Mechanical Engineering Technology Program is between $14,874 and $28,000, with the average entry level salary being $14,875.

Necessary qualifications for those contemplating the field of electronic or mechanical engineering technology include an aptitude in science and math, creativity, and an ability to work with others.

Students considering enrollment in the electronic or mechanical engineering technology programs at the Community College of Rhode Island should take the following courses in high school: Algebra or equivalent, Principles of Technology, and Communications.

NOTE for Mechanical, Electrical and Computer Engineering Technology at CCRI: A minimum of two years of algebra and one year of geometry or equivalent is required for acceptance into the program.

Possible jobs for those who complete the Mechanical or Electronic Engineering Technology Program at the Community College of Rhode Island: Students who complete the requirements of this program may seek employment in the design area as well as the manufacturing or industrial engineering department. Students may also elect to continue their education at a college or university that offers a bachelor of science degree in engineering technology.

Students who successfully complete this program will receive an Associate in Science degree.

Electronic Engineering Technology at CCRI

FIRST YEAR

First semester
Composition I
Technical Math I
Engineering Applications of Computers
Programming in BASIC
Fund. of Electricity & Electronics I
Intro. to Engineering & Technology

Second semester
Technical Math II
Fiber Optic Communications
Liberal Arts Elective
Graphics for Electronics
Electronic Devices and Circuits I
Fundamentals of Electricity and Electronics II

SECOND YEAR

First semester
Physics for Technology I
Liberal Arts Elective
Electronic Devices and Circuits II
Electronic Measurement and Instruments
Electronic Communications II
Digital Electronics

Second semester
Liberal Arts Elective
Electronic Communications II
Electronic Communications Lab
Technical Project
Industrial Electronics
Microprocessor & Microcomputers

Mechanical Engineering Technology at CCRI

FIRST YEAR

First semester
Technical Math I
Composition I
Physics for Tech. I
Engineering Graphics
Intro. to Robotics
Intro. to Engineering and Technology

Second semester
Technical Math II
Programming in Basic
Design Drafting
Manufacturing Processes
Statics & Strength of Materials
Engineering Applications of Computers
Cost Estimating

SECOND YEAR

First semester
Liberal Arts Electives (2)
Statistics & Quality Control
Basic Mechanisms
Basic Tool Design

Second semester
Principles of Production Management
Industrial Materials
Elements of Machine Design
Fund. of Control Electronics
Liberal Arts Elective

Instrumentation Technology

Students enrolled in the instrumentation technology program are trained to install, maintain, repair and calibrate instruments used in the production of products. They study the instruments used in process control which can be mechanically controlled (hydraulic or pneumatic), electronically controlled by computer or analog controller. Students will learn the process utilized in changing the raw product to the finished product. (Example: production of paper, chemicals, beer, film, electricity, etc.)

Career information: Instrument technicians service instruments which are used to measure, record, analyze and control product output and processes in research and industry. They overhaul and service instruments used to measure hydraulic pressure, fluid flow, temperature, level, and many other process variables. They inspect faulty instruments and diagnose malfunctions using manufacturers' manuals, by disassembly and visual inspection of apparatus designed especially for certain types of instruments. They reassemble, test and calibrate using high standard instruments to ensure accuracy and minimal instrument error. They install special laboratory test equipment and calibrate to manufacturers' specifications.

Necessary qualifications for those interested in the field of instrumentation technology include good manual dexterity and eye-hand coordination, good vision and color perception, patience and the ability to work alone and with others.

Locally, the following companies have hired students who have successfully completed an instrumentation technology program at the Community College: Honeywell, Davol, Narragansett Electric, Hoechst Celanese, Corp., Polaroid, Electric Boat, Foxboro Company, Toray Plastics, Gulton and New England Power.

The average starting salary of a instrument technician is $25,000; the starting salary range for this position is approximately $20,000 to $31,000.

Requirements for the instrumentation technology Program at the Community College of Rhode Island are Principles of Technology, Mathematics for Technology I and II, and Communications.

Instrumentation at CCRI

FIRST YEAR

First semester
Algebra for Technology
Technical Report Writing
Instrumentation I
Electrical Fundamentals
Digital Concepts

Second semester
Trigonometry for Technology
Technical Physics
Instrumentation II
Electrical Circuits
Semiconductor Devices

SECOND YEAR

First Semester
Computer Applications
Control Principals and Telemetry
Fundamentals of Electronic Circuits
Social Science Elective

Second semester
Technical Project and Seminar
Electronics for Instrumentation
Electives

Possible jobs for people who complete the Instrumentation program at the Community College of Rhode Island: instrumentation technician, product development technician, assistant control specialist, instrument repairer.

NOTE: A student's math selection should prepare them to take Algebra for Technology at the Community College level and to successfully complete the math placement test that is administered at the end of their senior year.

Students who successfully complete this program will receive an Associate Degree in Applied Science.

Machine Design at CCRI

FIRST YEAR

First semester
Composition I or English 1050
Algebra for Technology
Pictorial Drawing
Multiview Projection
Auxiliary Views, Intersections and Development
Machine Tool Processes I
Computer-Aided Drafting I

Second semester
Trigonometry for Technology
Social Science Elective
Dimensioning
Tolerancing
Production Drawings
Advanced Computer Aided Design
Manufacturing Processes

SECOND YEAR

First semester
Elective
Newtonian Physics
Machine Elements
Gear Design
Cam Design
Jig, Fixture, & Tool Design

Second semester
Elective
Introduction to Electronics
Machine Tool Processes II
Mechanisms
Gear Trains
Degree Project
Strengths & Properties of Materials

Possible jobs for people who complete the Machine Design program at the Community College of Rhode Island: machine technician, drafter, computer aided drafter/designer.

NOTE: Students' math selections should prepare them to take Algebra for Technology at the Community College level and to successfully complete the math placement test that is administered at the end of their senior year.

Students who successfully complete this program will receive an Associate Degree in Applied Science.

Machine Design

Students in the machine design program learn about the design of products or mechanisms used in manufacturing. The machine designer works closely with the engineer using drafting to design solutions (drawings that include specifications) to proposed problems. They may design new products or redesign existing products to make them more efficient. Drafting techniques include both traditional drawing and computer aided drafting/design.

Upon completion of this program, the student is qualified for employment as a technician in the design of industrial products as well as industrial machinery.

Career information: A student who successfully completes the machine design program may seek employment as a draftsman with potential to advance to machine designer. A drafter prepares detailed drawings from rough sketches, specifications and calculations of a wide variety of products. Drafters draw plans of a wide variety of items and show the entire item and individual parts complete with cost of materials used in the final item. Drafters prepare final drawings containing detailed views of objects and specifications of materials to be used as well as procedures to follow in the fabrication. They work with drafting tools such as compasses, dividers, protractors, triangles and drafting machines.

Drafters must be able to perform detailed work accurately, have good eyesight and eye-hand coordination, be able to work independently and as a team member, have artistic ability to do freehand sketching of three-dimensional objects and have the ability to letter with or without drafting aids.

Locally, the following companies have hired students who have successfully completed a machine design program at the Community College: Stanley Bostitch, Inc., A.T. Cross, Electric Boat, G & E Safety Equipment, GTE, and Toray Plastics.

The average starting salary in this field is approximately $23,000 a year.

High school qualifications for the machine design program at the Community College of Rhode Island include high school algebra or equivalent, Principles of Technology, and Communications.

Machine Processes

Students enrolled in the machine processes program learn about the production of tools or elements designed by a machine designer. This program enables students to gain knowledge in construction of machine tools including theoretical and practical phases of design, cost, and production of tools, dies and machine parts, as well as the principles on which their operation is based. Machining techniques will include traditional as well as computerized manufacturing techniques.

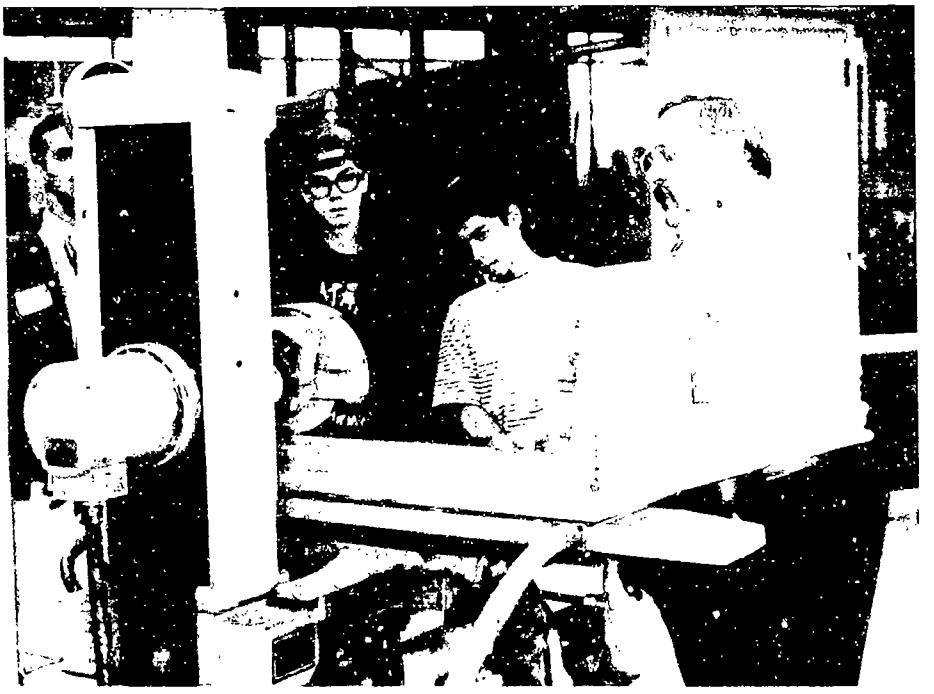
Career information: Students who have completed the machine processes program may seek employment in the metalworking industry. Other options include enrolling in an apprentice tool and die making program, for which the two years at CCRI will count directly, or a four-year industrial technology program. Tool and die makers are highly skilled workers who produce tools, dies and special guiding and holding devices that are used in machines that produce a variety of products. Toolmakers produce jigs and fixtures. They also make gauges and other measuring devices used in manufacturing precision metal parts and may also repair worn or damaged tools.

Students considering enrollment in the machine processes program should possess mechanical aptitude, manual dexterity, good eye-hand coordination, accuracy, dependability, pride in skills, attention to detail, good spatial judgement and ability to work alone.

Locally, the following companies have hired students who have successfully completed a machine processes program at the Community College: A.T. Cross, Bostitch, Carbon Tech, Federal Products, Madison Industries, Speidel, Tedco, Texas Instruments, Tower Manufacturing Co., General Dynamics, Evans Co., and A.T. Wall.

The average starting salary in this field is $31,010. The starting salary range in this field is between $27,019 and $35,000.

High school requirements for the machine processes program at the Community College of Rhode Island are Mathematics for Technology I and II or equivalent, Principles of Technology, and Communications.



Machine Processes at CCRI

FIRST YEAR

First semester
Composition I or English 1050
Algebra for Technology
Industrial Blueprint Reading
Lathe I
Mill I
Grinding I
Lathe I Lab
Mill I Lab
Grinding I Lab
Measurement I
App. Machine Tool Geometry

Second semester
Trigonometry for Technology
Technical Drawing Basics
Lathe II
Mill II
Grind II
Lathe II Lab
Mill II Lab
Grind II Lab
Measurement II
Social Science
Elective

SECOND YEAR

First semester
Lathe III
Mill III
Grind III
Lathe III Lab
Mill III Lab
Grind III Lab
Diemaking I
Machinery Handbook
Elective

Second semester
Machine Processes Lab
Strength and Properties of Materials
Newtonian Physics
Concepts of Numerical Control
Machine Processes Project
Diemaking II
Elective

Possible jabs for people who complete the Machine Processes program: Tool & Die Maker, Manufacturing Engineering Technician, Numerical-Control Machine Tool Operator

NOTE: Students' math selections should prepare them to take Algebra for Technology at the Community College level and to successfully complete the math placement test that is administered at the end of their senior year.

Students who successfully complete this program will receive an Associate Degree in Applied Science.

Tech Prep Business/ Office Administration

By enrolling in the Tech Prep Business/Office Administration Program in high school, students may get a clearer idea of what is involved in their area of career interest. In addition, students will be exposed to other educational areas of study which they may choose to explore further in the future.

Business Administration at the High School Level

High school students may earn Community College of Rhode Island credit while in high school contingent upon the following criteria:

1. Students must be enrolled in the Tech Prep Business Program at the completion of their sophomore year in high school.

2. Students must complete & pass the Introduction to Business course at the high school.

3. Students must complete & pass the Elementary Accounting I course while in high school.

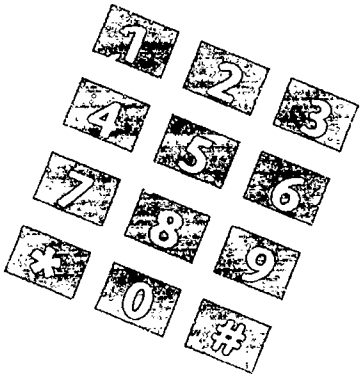
4. Students must graduate from high school & matriculate into the Business Administration Deptartment at CCRI.

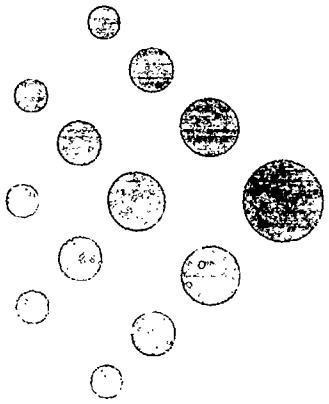
5. Students must complete & pass 12 credit hours or more, which will include Accounting II, at CCRI.

The Business Administration Program at the high school level

GRADE 11
English with Applied Communications component
Mathematics for Technology I or equivalent
Introduction to Business
Other required courses

GRADE 12
English with Applied Communications component
Mathematics for Technology II or equivalent
Accounting I
Other required courses





The Business Administration Associate Degree Program at CCRI

The following courses are required of business administration students in any of the program concentrations, which include Accounting, General Business Administration, Management, Marketing and Law Enforcement.

Principles of Economics I
Principles of Economics II
Composition I (or English 1050)
Oral Communication I
A one-semester literature course
Math (varies with course selection; see course descriptions) two semesters of math are required
Two electives from the social sciences, which include:
Geography
History
Labor Studies
Philosophy
Political Science
Psychology or Sociology
Elementary Accounting I and/or II
Law of Contracts
Law of Real Property, Estates or Law of Business Organization or Commercial Paper and Secured Transaction
Principles of Management
Principles of Marketing

Accounting Concentration
Students must complete Accounting 2010, Accounting 2020 and at least two other courses from this list:
Income Taxes I
Intermediate Accounting I
Intermediate Accounting II
Principles of Financial Management
Statistical Analysis I
Introduction to Computers
Cooperative Work Experience

General Business Administration Concentration
Students must select at least 13 credits from this list:
Introduction to Computers
Income Taxes I
Statistical Analysis I
Applied Business Psychology
Introduction to Business
Cooperative Work Experience

Management Concentration
Students must select at least 13 credits from this list:
Introduction to Computers
General Sociology
Income Taxes I
Applied Business Psychology
Managerial Accounting
Principles of Financial Management
Statistical Analysis I
Cooperative Work Experience

Marketing Concentration
Students must select at least 13 credits from this list:
Introduction to Computers
Advertising Principles
Marketing Communications
Sales
Consumer Behavior and Relations
Introduction to Market Research
Cooperative Work Experience

Law Enforcement Concentration

FIRST YEAR

First Semester
Oral Communications I
Intro. to Computers
Criminal Law
General Sociology
Administration of Justice

Second Semester
State & Local Government
Any 1000 level Math
Composition I or English 1050
Criminalistics I
Criminal Law & the Constitution

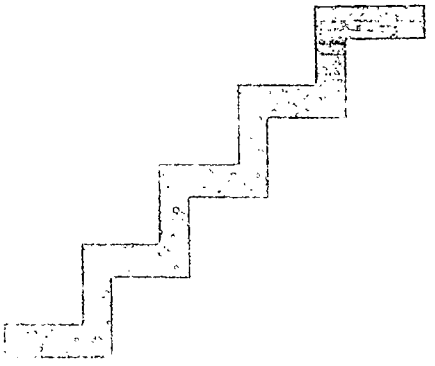
SECOND YEAR

First Semester
Psychology of Personal Adjustment or General Psychology
Criminalistics II
Law of Evidence
Constitutional Law
Elective

Second Semester
Principles of Management
Criminology
Law & Society
Elective
Elective

Electives
Elements of Economics
Interviewing Skills
Penology
Survey of Labor Relations
Drugs & Human Behavior
Cooperative Education Experience

Salary information: The average annual salary for a graduate of the Business Administration Program at CCRI is $22,733; the salary range for students who are employed in this field is between $12,400 and $41,600



The Office Administration Program at the high school level

GRADE 11
English with Applied Communications component
Mathematics for Technology I or equivalent
Keyboarding (with CCRI challenge credit)
Shorthand or Speedwriting (with CCRI challenge credit)
Other required courses
Business electives

GRADE 12
English with Applied Communications component
Mathematics for Technology II or equivalent
Secretarial Procedures (3 CCRI credits)*
College Accounting (3 CCRI credits)*
Other required courses
Business electives

** These courses are one semester college courses that are taught at the high school for a full academic year. They are taught by the high school faculty. Suggested proficiency in English and math are the same as outlined in the Tech Prep curriculum guidelines.*

The Office Administration Program at the Community College level

Office Administration with Shorthand Option

FIRST YEAR

First Semester
Business File Management
Keyboard Applications for Business I or Advanced Keyboarding Applications for Business
Editing Skills for Transcription I
Office Accounting
Intro. to Computers
Business Writing for Secretaries

Second Semester
Shorthand Theory: Speedwriting
Keyboard Applications for Business II
Editing Skills for Transcription II
Administrative Office Procedures I
Business Math
Intro. to Word Processing

SECOND YEAR

First Semester
Shorthand Dictation/Transcription or Advanced Shorthand Dictation/Transcription
Administrative Office Procedures II
Applied Document Processing I
Oral Communication I
Psychology of Personal Adjustment

Second Semester
Applied Document Processing II
Law of Contracts
Cooperative Work Experience or Office Administration Career Development
Composition I
Administrative Office Management
Social Science elective

Office Administration with Machine Transcription Option

FIRST YEAR

First Semester
Business File Management
Keyboard Applications for Business I or Advanced Keyboarding Applications for Business
Editing Skills for Transcription I
Office Accounting
Introduction to Computers
Business Writing for Secretaries

Second Semester
Administrative Machine Transcription I
Keyboard Applications for Business II
Editing Skills for Transcription II
Administrative Office Procedures I
Business Math
Introduction to Word Processing

SECOND YEAR

First Semester
Administrative Machine Transcription II
Administrative Office Procedures II
Applied Document Processing I
Oral Communication I
Psychology of Personal Adjustment

Second Semester
Applied Document Processing II
Law of Contracts
Cooperative Work Experience I or Office Administration Career Development
Composition I
Administrative Office Management
Social Science elective

Legal Administrative Assistant/Secretary

FIRST YEAR
Same as Office Administration with Shorthand or Machine Transcription Option

SECOND YEAR
Shorthand option

First Semester
Shorthand Dictation/Transcription or Advanced Shorthand/Trans.
Legal Document Processing
Law of Contracts
Oral Communication I

Second Semester
Applied Document Processing I
Cooperative Work Experience or Office Administration Career Development
Legal Office Administration
Legal Forms & Terminology
Psychology of Personal Adjustment
Social Science Elective

Legal Administrative Assistant/Secretary with Machine Transcription Option

First Semester
Administrative Machine Transcription II
Legal Document Processing
Law of Contracts
Law of Business Organization
Oral Communications I

Second Semester
Applied Document Processing II
Cooperative Work Experience I or Office Administration Career Development
Legal Office Administration
Legal Forms & Terminology
Psychology of Personal Adjustment
Social Science Elective

Medical/Administrative Secretary/ Assistant

FIRST YEAR
Same as Office Administration with Shorthand or Machine Transcription Option

SECOND YEAR

First Semester
Medical Document Processing
Medical Terminology
Anatomy & Physiology
Psychology of Personal Adjustment
Oral Communication I
Medical Machine Transcription I

Second Semester
Medical Machine Trans. II
Medical Cooperative Work Exp.
Medical Office Administration
Introduction to Pharmacology
Clinical Procedures
Composition I
Social Science Elective

Salary information: The average starting salary of graduates from the Office Administration Program is $16,440 a year; the starting salary range is between $11,170 to $22,501.

The Allied Health and Dental Health Programs

The Tech Prep Allied Health and Dental Health Programs are well-planned programs of study that include high school courses in Communications, Mathematics for Technology and Applied Biology/Chemistry. At the high school level, the Allied Health and Dental Health Programs encourage students to explore a number of career choices in the Allied Health and Dental Health fields so they may have a clearer idea of the many options available to them if they decide to continue their education at the Community College of Rhode Island. These options include programs in Cardio-Respiratory Care, Radiography, Medical Lab Technology, Phlebotomy, Dental Hygiene, and Dental Assistant.

Allied/Dental Health curriculum at the high school level

GRADE 11
Principles of Technology I and/or Applied Biology/ Chemistry I (ABC I)*
English/Applied Communications
Math (Mathematics for Technology I, II, Elementary Algebra Part I, Algebra I)
Physical Education
Other required coursework
Electives

GRADE 12
Principles of Technology II and/or ABC I, II*
English/Applied Communications
Math (Mathematics for Technology II, Elementary Algebra Part II, Geometry)
Physical Education
Other required coursework
Electives

**Applied Biology/Chemistry may be taken in grades 9 and/or 10 where applicable; this is a one- to two-year program.*

ALLIED HEALTH

Cardio-Respiratory Care

Cardio-respiratory care practitioners work under medical supervision in the treatment, management, control, diagnostic evaluation and care of patients with problems associated with the cardiopulmonary systems of the body.

The Community College of Rhode Island offers a two-year integrated respiratory therapist program (six semesters) which incorporates college classes with clinical, on-site practice. The Community College offers a fully-accredited program in Cardio-Respiratory Care. Program graduates earn an Associate in Applied Science Degree, and must pass a national entry-level (CRTT) examination in order to obtain a state license to practice respiratory care. They are eligible to sit for advanced level national examinations.

Career information: The respiratory care practitioner may perform varied tasks within the hospital - in intensive care, health screenings, EKGs and more. Outside the hospital setting, the respiratory care practitioner provides home respiratory care and educates the patient and his/her family.

Locally, the following companies have hired students who have successfully completed the cardio-respiratory care program at the Community College: Kent County Memorial Hospital, Pawtucket Hospital, Rhode Island Hospital.

The starting salary range for graduates of this program is between $18,720 and $28,860; the average annual starting salary is $24,385

Cardio-Respiratory Care at CCRI

Recommended sequence of courses:

First semester
Composition I
Algebra for Technology
Human Anatomy

Second semester
Human Physiology
Health Science Chemistry I
Elective (not a math or science course)
Introduction to Respiratory Care**
Human Relations Seminar

Third semester
Introductory Microbiology
Respiratory Care I
Development, Structure/Function of the Normal Lung
Clinical Practicum I (8 hrs. wk. x 15 wks.)

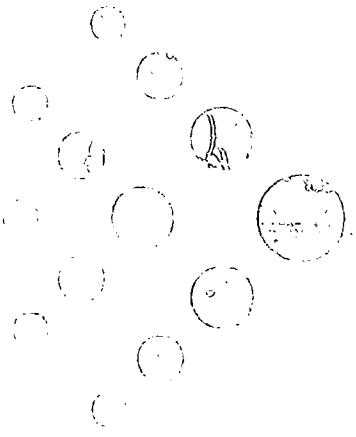
Fourth semester
Respiratory Care II
Clinical Practicum (32 hrs. wk. x 5 wks.)

Fifth semester
Cardiopulmonary Diseases I
Respiratory Care III
Clinical Practicum III (24 hrs. wk. x 15 wks.)

Sixth semester
Cardiopulmonary Diseases II
Respiratory Care IV
Clinical Practicum IV (24 hrs. wk. x 15 wks.)(24 hrs. wk. x 1 wk.- Neonatal)

***A prerequisite to Introduction to Respiratory Care is admission to the Cardio-Respiratory Care Program and concurrent enrollment in CHEM 1180, which is Health Science Chemistry I.*

Note to Full-Time Students: It is recommended that full-time students take a minimum of seven (7) credits during their first semester (summer), 18 credits during their second semester, 13 credits during their third semester, seven (7) credits during their fourth semester (summer), 15 credits during their fifth semester, and 15 during their sixth semester.



Phlebotomy

A phlebotomist is a person who obtains blood samples for clinical laboratory testing. The rapid and expanded growth of scientific knowledge and technology has resulted in an increase in the volume of testing, the development of new and varied test systems, and a commitment to quality assurance in the clinical laboratory.

The phlebotomy certificate program at the Community College is a one-semester program which includes 160 hours of clinical training at an affiliated site, such as a hospital, private lab, or clinic. The program includes lectures and laboratory experiences at CCRI as well as the practical training at the clinical site. Students must successfully complete the lecture and laboratory portion during the first 11 weeks of the program before they are allowed to proceed to the practical training.

After successfully completing this training, a student will be eligible to take a national certification exam in Phlebotomy. The training program at CCRI combines theory with technical skills development under the direction of the program coordinator. Students who successfully complete the program will receive a certificate from CCRI.

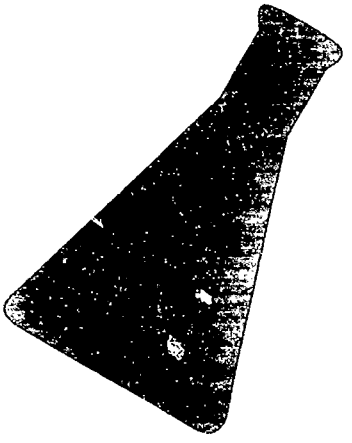
For full-time students, the Phlebotomy program will take one semester. For part-time students, the program will take two semesters in the evening.

Career information: A phlebotomist may be employed in private labs, doctors' office laboratories, hospital labs, clinics and emergency rooms. Locally, the following companies have hired students who have successfully completed the phlebotomy program at the Community College: Coventry Health Center, Fatima Hospital, Kent County Memorial Hospital, Memorial Hospital of Rhode Island, Rhode Island Blood Center and South County Hospital.

The starting salary range for graduates of this program is $13,520 to $28,371. The average annual starting salary is $17,781.

Phlebotomy at CCRI

Day and evening program-Students must be accepted in the Phlebotomy Program before taking any major requirements.
Phlebotomy I
Phlebotomy II



Medical Laboratory Technology

Tremendous advances in modern medicine have resulted in an ever increasing demand for diagnostic laboratory tests. The complexity of laboratory sciences today requires a highly trained technician to carry out these intricate analyses. The medical laboratory technician program prepares the student to enter this interesting and rewarding field.

A medical laboratory technician is a person who works in a laboratory running general lab tests in departments such as chemistry, hematology, blood bank, bacteriology, urinalysis, and serology.

The medical laboratory technology course of study at the Community College of Rhode Island is a two-year program which includes clinical experience. At the end of this experience, the students are eligible to sit for the registry examination which certifies them to work in this field. The training program at CCRI is an integrated program that combines theory with technical skills. The student prepares for three semesters at the Community College. Two semesters are spent at an affiliated hospital where clinical practices are performed under the supervision of qualified, registered, professional personnel. The techniques of the operation, care and maintenance of the latest equipment are emphasized throughout the clinical and academic experiences. MLT students are required to have health and accident insurance.

Students who successfully complete the medical laboratory technology program at CCRI will receive an Associate in Applied Science degree (AAS) with a major in Medical Laboratory Technology. Students may advance in this area of study by continuing their education at a four-year institution.

Career information: Individuals who complete this course of study may work in private labs, doctors' office laboratories, hospital labs, research, sales and commercial labs. Locally, the following companies have hired students who have successfully completed the medical laboratory technology program at the Community College: Roger Williams Hospital, Women & Infants Hospital, Massachusetts General Hospital, and Associated Medical Services.

The starting salary range for graduates of the Medical Laboratory Technology Program at CCRI is $22,280 to $26,395. The average annual starting salary is $24,641.

Medical Laboratory Technology at CCRI

FIRST YEAR

First Semester
General Biology-Zoology
Health Science Chemistry I
Composition I
Algebra for Technology
General Psychology
Introduction to Clinical Laboratory Science

Second Semester
Health Science Chemistry II
Bacteriology
Serology/Immunohematology
Urinalysis

Courses which are recommended to be taken between first and second year or after first and second sequence courses are completed:
Clinical Serology/Immunohematology
Clinical Urinalysis

SECOND YEAR

Third Semester
Liberal Arts elective (not a math or science course)
Clinical Microbiology I
Hematology
Clinical Chemistry I

FourthSemester
Clinical Microbiology II
Clinical Hematology
Clinical Laboratory Science Seminar
Clinical Chemistry II

Note to full-time students: It is recommended that full-time students take a minimum of 18 credits during their first semester, 18 credits during their second semester, 16 credits during their third semester, and 17 credits during their fourth semester.

Radiography

A radiographer is a person who uses x-radiation and a knowledge of anatomy and imaging principles to aid physicians in the diagnosis of disease, in monitoring patient progress, and in controlled screenings to help prevent disease.

The Radiography Program at CCRI is a two-year, six semester program if the student attends full-time. The program incorporates college classes with clinical practice. The Community College of Rhode Island offers a fully-accredited program in Radiography. Students complete six semesters of classroom instruction at the College and undertake the clinical training at the hospitals affiliated with the program. Students who successfully complete the program receive an Associate in Applied Science degree and are eligible to take the American registry examination in July of the second year.

Career information: Health occupation analyses made in this state indicate a continuing need for individuals trained in this highly specialized allied health field. Career options in radiography include working in hospitals, clinics, physicians' offices, and private emergency rooms. There are round-the-clock job opportunities, and many part-time positions are also available. Locally, the following companies have hired students who have successfully completed the radiography program at the Community College: Kent County Memorial Hospital, Memorial Hospital of Rhode Island, Newport Hospital, Roger Williams Medical Center, and Rhode Island Hospital.

The average annual starting salary of graduates of the Radiography Program at CCRI is $22,930. The starting salary range is $18,000 to $29,640.

Radiography Program at CCRI

First semester
Algebra for Technology
Introduction to Radiography
Principles of Radiography I

Second semester
General Psychology
Principles of Radiography II
Radiography, Anatomy & Physiology
Radiographic Positioning I
Clinical Education I
Patient Care for Radiographers

Third semester
Composition I
Principles of Radiography III
Radiographic Physics
Radiographic Positioning II
Clinical Education II

Fourth semester
Radiographic Seminar I
Clinical Education III

Fifth semester
Literature elective
Intro. to Computers
Special Procedures
Quality Assurance in Radiography
Applied Radiographic Physics
Clinical Education IV

Sixth semester
Two (2) Liberal Arts Electives
Intro. to Radiation Biology
Cross Sectional Imaging
Radiographic Seminar II
Clinical Education V

DENTAL HEALTH

Dental Hygiene Program

A dental hygienist is a licensed provider of preventative dental patient care services.

Students in the Dental Hygiene program at CCRI take courses in four major areas: general studies, basic sciences, dental sciences, and dental hygiene science. The Dental Hygiene curriculum is a challenging one, but it is interesting, practical and applicable to everyday life.

Dental hygiene classes are of several types: lecture, laboratory and clinic. The majority are of the "hands-on" laboratory and clinics. CCRI has a dental hygiene clinic on campus so students may treat patients under faculty supervision during the training program.

Entrance to the Dental Hygiene Program at CCRI is currently competitive and may require candidates to be placed on a waiting list. However, students whose background includes college preparatory or Tech Prep courses in English, math and science (including algebra and chemistry) should be better prepared to successfully complete the program.

In addition to reqired competencies in Math and English, students must complete Human Anatomy and Introduction to Dental Hygiene with a grade of C or better. Students whose background does not include these courses may want to take them at the college level before applying to the Dental Hygiene program at CCRI.

Career information: Dental hygienists work in dental offices and clinics, hospitals, schools and military installations. Their duties include cleaning teeth, taking x-rays, educating patients, and providing other preventative services. Hygienists also teach in schools of dental hygiene, coordinate dental public health programs, and work in dental hygiene research or dental hygiene product sales.

The starting salary range for graduates of CCRI's Dental Hygiene Program is between $16,354 and $52,000 with the average starting salary being $33,516.

Dental Hygiene at CCRI

FIRST YEAR

First Semester
Human Anatomy (Admission Requirement)
Survey of Biomedical Chemistry
Oral Communication I
Dental & Oral Anatomy
Dental Hygiene I
Clinical Dental Hygiene I
Human Physiology

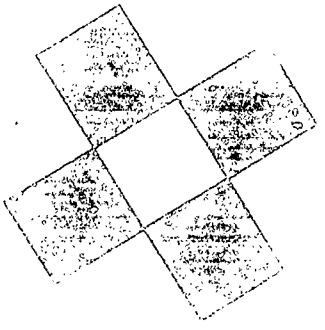
Second Semester
Introductory Microbiology
Composition I
Oral Embryology & Histology
Dental Hygiene II
Clinical Dental Hygiene II

SECOND YEAR

First Semester
Oral Radiography
Dental Materials
Dental Materials Lab for Dental Hygienists
Pathology
Dental Hygiene III
Clinical Dental Hygiene III
Periodontics

Second Semester
Community Dental Health
Clinical Periodontics
Dental Hygiene IV
Clinical Dental Hygiene IV
General Psychology
General Sociology
Essentials of Pharmacology & Therapeutics

Note to full-time students: It is recommended that full-time students take a minimum of 19 credits during their first semester, 19 credits during their second semester, 18 credits during their third semester, and 18 credits during their fourth semester.



Dental Assisting Certificate

A dental assistant is a person who helps a dental professional deliver dental care services to the public. As technology takes on a more important role in the field of dentistry, people in the field have a greater need for skilled assistance from knowledgeable personnel.

The Community College of Rhode Island has the only dental assisting program in Rhode Island which is accredited by the Commission on Dental Accreditation.

At the Community College level, dental students spend their first semester on campus taking courses. Second semester students spend two-and-a-half days a week gaining on-the-job experiences in off-campus clinical facilities. The other two-and-a-half days are spent taking classes on campus. Chairside dental assisting, including dental specialties, continues during this portion of the program. The curriculum for the dental assisting program includes a mixture of lectures, on-campus laboratory classes and clinical experience. Most of the students' experiences are hands-on in nature.

Upon successful completion of the dental assisting course of study, students are awarded a certificate by the College. Graduates are eligible to sit for a nationally-recognized certification examination administered by the Dental Assisting National Board, Inc.

Career information: Most dental assistants work in private dental offices or clinics. Positions are also available in hospitals, schools, military clinics, insurance companies, research institutions and dental product sales.

The average annual starting salary of graduates of the Dental Assisting Program at CCRI is $18,379; the starting salary range is between $14,144 and $21,320.

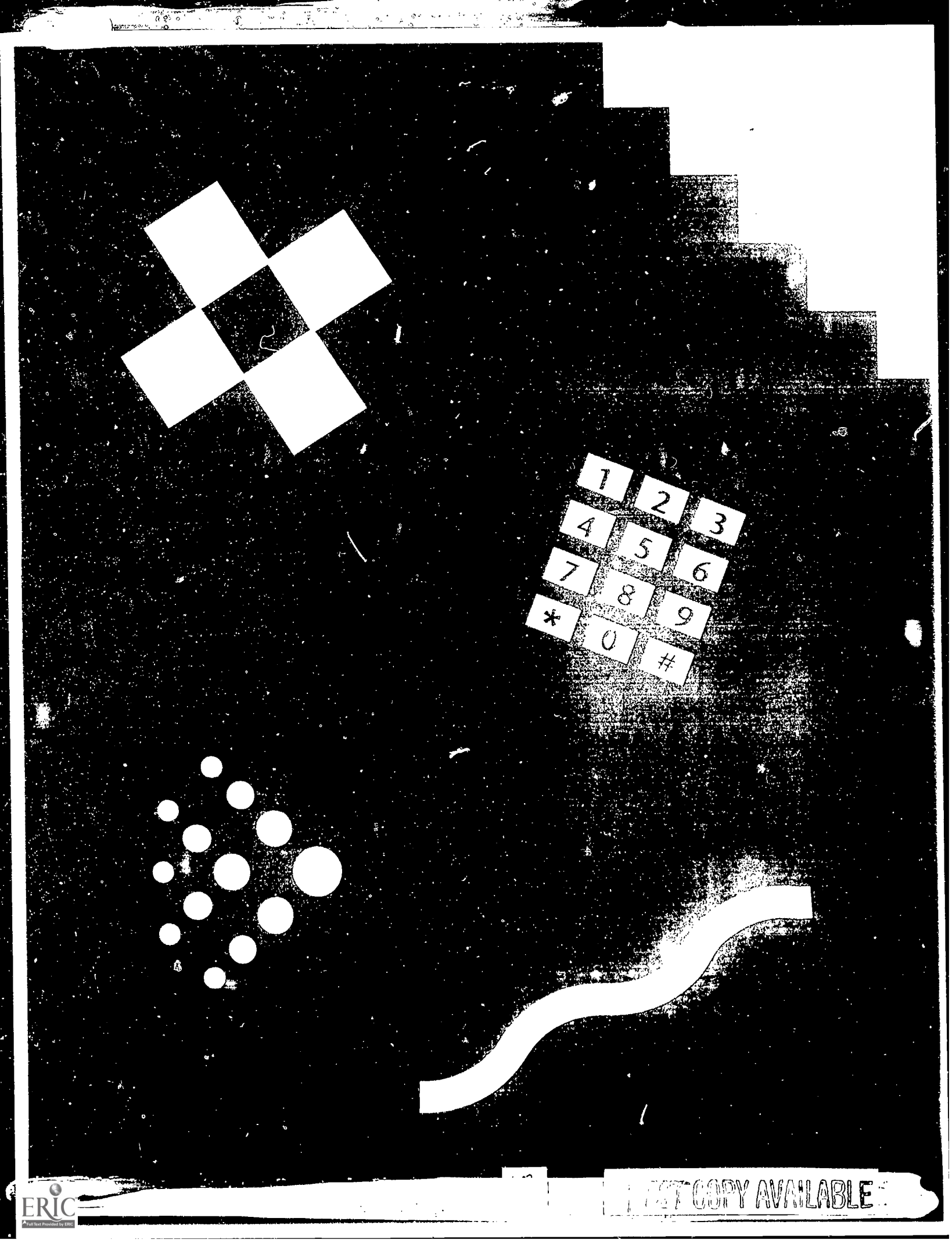
The Dental Assisting Certificate Program at the Community College of Rhode Island

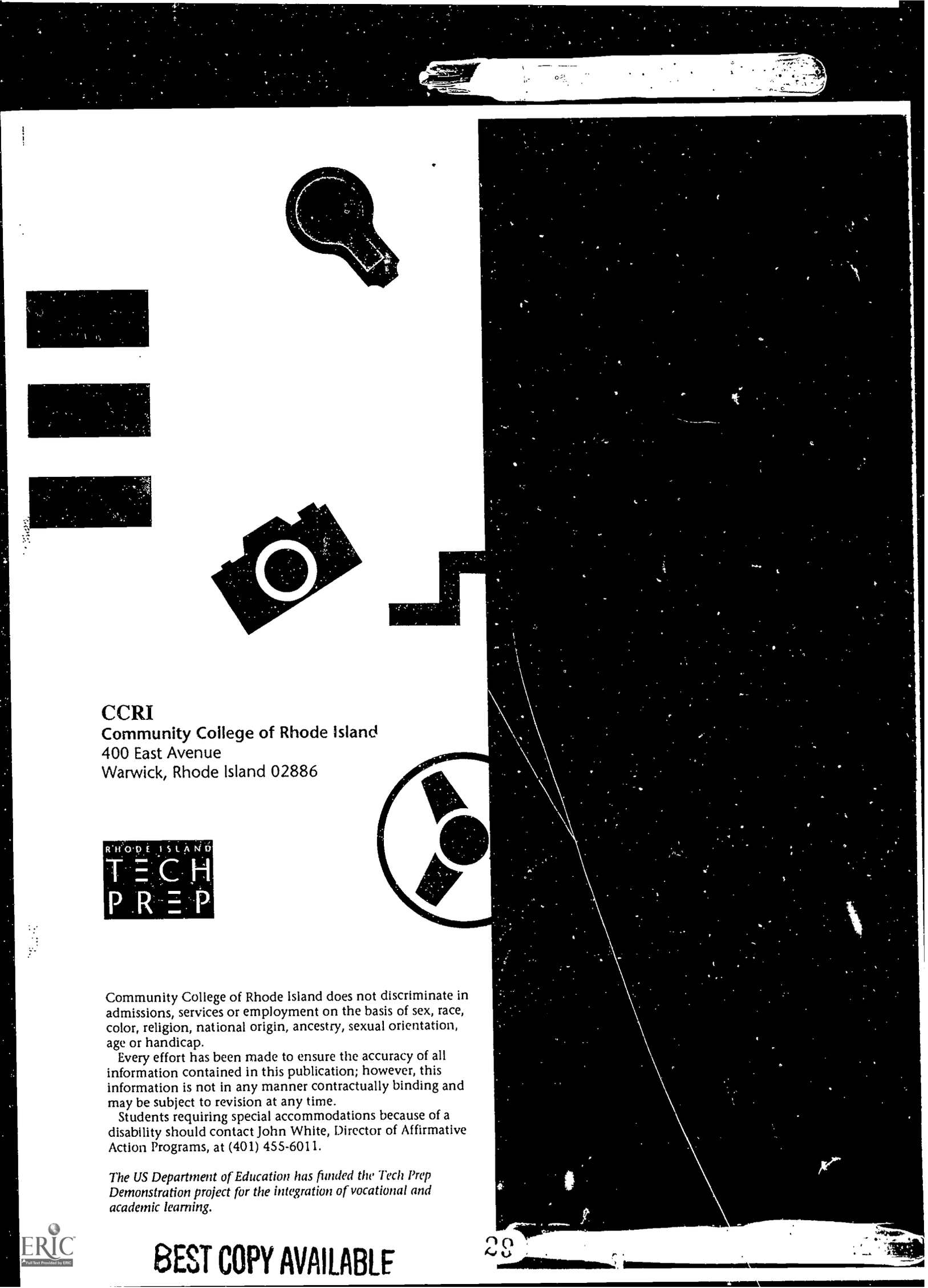
FIRST YEAR

First Semester
Anatomy & Physiology
Composition I
Oral Biology I
Preventative Dentistry
Chairside Dental Assisting I
Oral Radiography
Dental Materials
Dental Materials Lab for Dental Assistants

Second Semester
Introduction to Pharmacology
Oral Communications I
Psychology of Personal Adjustment
Oral Biology II
Chairside Dental Assisting II **
Dental Office Procedures

*** Includes 312 clock hours of clinical*
Note to full-time students: It is recommended that full-time students take a minimum of 20 credits during their first semester and 16 credits during their second semester.





CCRI
Community College of Rhode Island
400 East Avenue
Warwick, Rhode Island 02886

RHODE ISLAND TECH PREP

The US Department of Education has funded the Tech Prep Demonstration project for the integration of vocational and academic learning.