

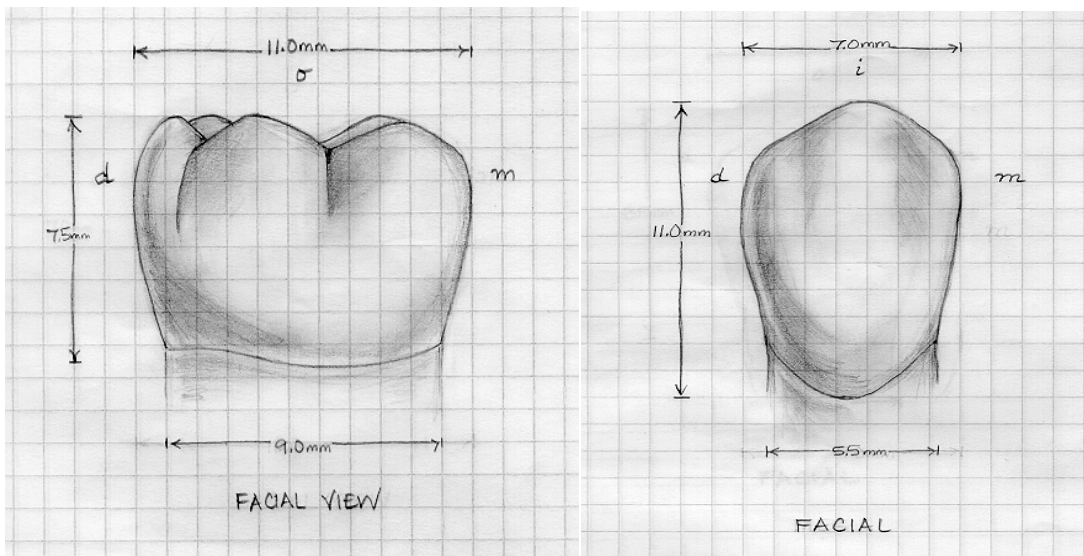
J. Sargeant Reynolds  
Community College



**School of Nursing and Allied Health**

# **DENTAL LABORATORY TECHNOLOGY**

**A.A.S. DEGREE PROGRAM**



**INFORMATION PACKAGE**

Dear Prospective Student,

Thank you for inquiring about the challenging and interesting field of Dental Laboratory Technology. Employment opportunities are currently at an all time high, and are expected to grow significantly during the next 20 to 30 years. Please consider the following advantages of becoming a Dental Laboratory Technician and earning the Associate of Applied Science degree at J. Sargeant Reynolds Community College.

- ❖ The Program offers beautiful facilities on the Downtown Campus with "state-of-the-art" equipment.
- ❖ The Program is closely associated with the VCU School of Dentistry with many guest lecturers and resources available to J.S.R. students.
- ❖ According to the National Association of Laboratories, salaries for skilled technicians employed in a quality-oriented laboratory presently might expect to earn in the \$40,000 to \$60,000 range."
- ❖ J. Sargeant Reynolds Dental Laboratory Technology Program is the only one in the state of Virginia. It is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of "approval without reporting requirements". The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation may be contacted at 312-440-4653 or at 211 E. Chicago Ave. , Chicago, IL 60611.
- ❖ Faculty assists all students in finding employment in area commercial dental laboratories.

We hope that this information will answer many of your questions concerning our Program. Please feel free to call us if you have any further questions at 804-523-5931. ewolfe@reynolds.edu

Sincerely,

Ernie L. Wolfe, CDT, M. Ed., Program Head

# DENTAL LABORATORY TECHNICIAN



**Average Salary Range:** \*\$22,000 - \$40,000

**Educational Requirements:** Student wishing to pursue a career as a dental laboratory technician should take challenging high school courses in science, math and English. Dental laboratory technicians receive their education and training through a two-year program at community colleges, vocational schools, technical colleges, or dental schools accredited by the Commission on Dental Accreditation. Graduates of these programs usually receive associate degrees. In most cases, an individual needs a high school diploma to apply to an accredited program. Passing an examination that evaluates their technical skills and knowledge certifies dental laboratory technicians.

Some people become dental laboratory technicians through a five-year apprenticeship program, with most of the training on the job.

**Education Institute:** J. Sargeant Reynolds Community College

**Professional Associations:** Commission on Dental Accreditation, American Dental Assoc.

National Association of Dental Laboratories

## **Dental laboratory technicians:**

- Read prescriptions and examine models and impressions to determine the type of dental restoration to be made or repaired.
- Work with models and impressions of patient's teeth or mouth to make and repair dentures, braces, crowns, and bridges based on dentist's prescription.
- Cast various dental alloys for fabrication of crowns, bridges, and removable partial dentures.
- Select and mount replacement teeth using color charts and tooth illustrations.
- Build and fire dental porcelains.
- Polish metal, plastic and porcelain surfaces to the specified finish.
- Bend and solder wire to construct orthodontic retainers.

Dental laboratory technicians can specialize in various aspects of the work prescribed by dentists and orthodontists: crown and bridge technicians, denture technicians, partial denture technicians, ceramic technicians, and orthodontic technicians.

Dental laboratory technicians work in commercial dental laboratories. Employment opportunities are also available in private dental offices, dental schools, hospitals, and companies that manufacture dental prosthetic materials.

*\* According to the Virginia Health Occupations Catalog*

# Dental Laboratory Technology

## Associate in Applied Science

**Purpose:** The major in Dental Laboratory Technology begins each fall semester and is designed to prepare students for employment as dental laboratory technicians to provide an essential support service for the dental professional according to the dentist's prescription or work request. The dental laboratory technician constructs and repairs all types of dental prosthetic appliances.

**Occupational Objectives:** Employment opportunities exist in commercial dental laboratories, hospital dental laboratories, private dental offices, dental research laboratories, and as dental sales representatives.

**Admission Requirements:** General college curricular admission.

**Financial Requirements:** In addition to the regular college tuition and fees, the Dental Laboratory Technology program requires:

Books and Instruments \$300.00 per academic year  
Books and Instruments \$140.00 Summer Session

**Program Notes:** Students admitted into this program will be approved for entry into major/clinical courses (DNL 120 and higher) when they have satisfied the following requirements:

1. Completion of one unit of high school mathematics with a grade of "C" or better, or its equivalent (JSRCC MTH 02).
2. Completion of all JSRCC developmental coursework prescribed as a result of JSRCC placement tests.
3. All applicants to the Dental Laboratory Technology AAS degree program must declare their curriculum plan as the Pre-Nursing and Allied Health Career Studies Certificate if they enroll prior to fall semester. (Please see [http://www.jsr.vccw.edu/curriculum/plan\\_info.htm](http://www.jsr.vccw.edu/curriculum/plan_info.htm) for the information on this career studies certificate.) In order to be officially accepted into the Dental Laboratory Technology program, applicants must meet with the Program Head to review their records.
4. Interview with the program head and permission to enter major/clinical courses. The interview will include evaluation of appropriate related experience and may include a manual dexterity. Students must provide evidence of interest, aptitude, and motivation in dental laboratory technology. Call (804) 523-5931 for an appointment.

Any student whose final grade is below a "C" in any dental laboratory course must obtain permission from the program head to continue the major in Dental Laboratory Technology. DNL courses are sequential unless otherwise determined by the program head.

**Progression through the Program:** The college offers this program in affiliation with the healthcare agencies and practitioners in the communities the college serves. The college relies on its community affiliates to provide clinical and laboratory opportunities for its students, expert clinical and laboratory preceptors, and course instructors for many courses. The often rapid changes in healthcare law, standards of practice, technology and content of credentialing examinations increasingly necessitate sudden changes in the program's course content, policies, procedures, and course scheduling. As a result, the college cannot guarantee every student continuous and uninterrupted clinical and course instruction as outlined in the printed catalog curriculum for this program. Circumstances beyond the control of the college may necessitate the postponement of course offerings or changes in the sequencing and/or location of scheduled courses or clinical assignments. Additionally, the college may have to change the instructor of courses after instruction has started.

All applicants to the Dental Laboratory Technology program must complete a computer competency placement test prior to enrollment in their first semester of courses. Students not passing this test will be required to complete a basic computer competency course prior to or concurrently with DNL 175. (See program advisor.)

**Program Accreditation:** The program in Dental Laboratory Technology is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of "approval without reporting requirements." The Commission on Dental Accreditation, a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at East Chicago Avenue, Chicago, IL 60611.

## CURRICULUM

Section	Course Title	Lec Hrs	Lab Hrs	Course Cre
DNL 100	Professional Ethics and Dental History	2	0	2
DNL 110	Dental Laboratory Materials	2	3	3
DNL 120	Dental Anatomy and Physiology	2	3	3
DNL 130	Introduction to Complete Dentures	3	9	6
SDV 100	College Success Skills	1	0	1
<b>Total</b>		<b>10</b>	<b>15</b>	<b>15</b>
DNL 135	Introduction to Removable Partial Dentures	3	9	6
DNL 136	Principles of Occlusion	2	3	3
NAS 105	Natural Science Topics for Modern Society	2	0	2
MTH 120	Introduction to Mathematics	3	0	3
ENG 111	College Composition I	3	0	3
<b>Total</b>		<b>13</b>	<b>12</b>	<b>17</b>
DNL 137	Orthodontic and Pedodontic Appliances	2	3	3
DNL 138	Introduction to Fixed Prosthodontics	3	9	6
DNL 160	Removable Prosthodontic Techniques	2	3	3
— —	Health or Physical Education	0-2	0-4	2
<b>Total</b>		<b>7-9</b>	<b>15-19</b>	<b>14</b>
DNL 175 <sup>1</sup>	Dental Laboratory Management	2	0	2
DNL 220	Introduction to Dental Ceramics	3	9	6
— —	Humanities Elective	3	0	3
ENG 112	College Composition II	3	0	3
<b>Total</b>		<b>11</b>	<b>9</b>	<b>14</b>
DNL 216	Dental Laboratory Practicum	1	15	6
DNL 231	Advanced Dental Laboratory Techniques I	2	0	2
DNL 298	Seminar and Project	1-2	0	1-2
PSY 120	Human Relations <b>OR</b>			
PSY 201	Introduction to Psychology I	3	0	3
<b>Total</b>		<b>7-8</b>	<b>15</b>	<b>12-13</b>
Total Minimum Credits for AAS Degree in Dental Laboratory Technology				72

<sup>1</sup>Students must pass the computer competency placement test or complete a basic computer competency course prior to or concurrently with DNL 175.



## **The Art & Science of Dental Laboratory Technology**

Dental laboratory technology is the art and science of fabricating corrective replacements for natural teeth.

Good teeth -- and good dental care -- affect our health and well being in ways we often take for granted. Clear speech, proper nutrition, and the correct function of certain cranial structures all depend in part on our teeth. When we lose teeth -- through accident or illness -- they generally need to be replaced to maintain these functions. This is called *restorative* (or *prosthetic*) *dentistry*.

Often, teeth must be moved or stabilized to optimize these functions or prevent painful dysfunction. This is called *orthodontic* treatment.

The patient's dentist will plan the treatment and place the restoration or corrective device in the patient's mouth. However, there is another skilled artisan behind the science, working on the written orders or *prescription* of the dentist, who fabricates the restoration or device. This is the dental technician.

### **The Art**

Each restoration the technician makes will be different, and each must simulate the function of the natural teeth. However, beyond that, the technician's great challenge is to capture and recreate both the *perfection* and the *imperfection* of natural teeth.

### **The Science**

There is a constantly evolving variety of material available to dental technicians for recreating the appearance of natural teeth in fixed restorations (such as crowns and bridge): mainly ceramics, plastics and metal alloys. For removable restorations (such as dentures) and corrective devices, the technician must understand physical forces and the characteristics and handling properties of wires and plastic materials.

### **The Necessary Skills**

Good candidates for careers in dental technology usually possess good eye-hand coordination and color perception, dexterity in using small instruments, the patience to attend to minute detail, and an interest in learning the underlying material sciences.

### **Employment Outlook**

Because many people are completely unaware of dental technology, this career has not historically attracted large numbers of new entries into the field. However, as restorative dentistry becomes more sophisticated, the dental profession is seeking more highly skilled dental technicians to provide the services and products they require to offer optimum treatment to their patients. At the same time, the U.S. military services -- once the largest single source of dental

technology training -- are training fewer technicians. Dental schools are teaching a decreasing amount of dental technology to dental students, which, in turn, make them more dependent upon the skills and knowledge of the dental technician.

This could be a very fine time to consider a career in dental technology!

## **The Work Setting**

Most dental technicians are employed in commercial dental laboratories (laboratories that provide services to a number of different dentists). Commercial dental laboratories are often very small, having only two or three employees; but they range in size to over 200 people. Some private dental offices have their own laboratory, usually with just one or two technicians doing the laboratory work for just the dentist(s) practicing in that office.

The military services still train and employ a number of dental technicians, as do government and private hospitals and companies that manufacture dental prosthetic materials. Schools teaching dental technology offer some teaching positions for experienced technicians.

Dental technology is also an excellent field for persons who dream of owning their own business someday. It is imperative, however, that technicians who wish to become entrepreneurs first educate themselves in sound business practices.

## **Getting Started**

Many dental laboratories -- larger ones in particular -- offer positions for trainees. Persons hired at the entry level may rapidly progress to being productive employees performing a limited range of laboratory procedures. Whether (and how soon) the trainee will have additional opportunities to learn more advanced tasks and underlying theory will depend entirely upon the employer's needs and resources.

Another route to a career in dental technology is by completing one of the two-year courses in dental technology offered through accredited dental technology education programs. These courses provide students with broad-based theory and an introduction to laboratory procedures across the various dental technology specialties. A graduate may expect to be hired at a salary not significantly higher than that paid to a trainee, but should be able to progress far more rapidly to professional-level skills.

## **Earnings**

Because of the variety of employment settings, and the wide possible range of skills and skill-levels, it is difficult to establish meaningful averages for technicians' earnings. Based on advertised salaries, a skilled technician employed in a quality-oriented laboratory presently might expect to earn in the \$40,000 - \$60,000 range. A laboratory owner's earnings will depend largely on the clientele he/she decides to serve, and, more importantly, on his or her financial management skills.

## **The Professional Dental Technician**

States set no minimum qualification for persons to be employed as dental technicians, and so the field exhibits a wide range of skills and abilities. Technicians who have at least five years of education and experiences in dental technology may wish to distinguish themselves by taking the examination to become *Certified Dental Technicians* (CDTs).

New materials, techniques, and equipment are regularly introduced to dental technology, and it is essential that dental technicians maintain state-of-the-art information and skills through frequent attendance at continuing education programs offered throughout the country.

### **Want more information?**

Visit the National Association of Dental Laboratories web site and find out how you can start a career as a Dental Technician. [www.nadl.org](http://www.nadl.org) The American Dental Association website also has career information at: [www.ada.org](http://www.ada.org)

## **Technology Today**

- There are more than 60,000 active dental laboratory technicians in the U.S. today.
- Dental laboratory technicians follow dentist' written instructions and make dental prostheses - replacements for natural teeth that enable people who have lost some or all of their teeth to eat, chew, talk and smile in a manner similar to the way they did before.
- Skill in using small hand instruments, accuracy, artistic ability and attention to minute detail are the hallmarks of the qualified dental laboratory technician.
- The majority of dental laboratory technicians work in commercial dental laboratories, which on average employ between 3 and 5 technicians. Additionally, some dentists employ dental technicians in their private dental offices. Since most dentist use laboratory services, employment opportunities in this field are excellent.
- Employment opportunities for dental technicians may also be available in dental schools, hospitals, the military, and companies that manufacture dental prosthetic materials. Dental laboratory technology education programs also offer some teaching positions for qualified technicians.

## **Technology Tomorrow**

- The demand for dental services will continue to grow. Due to the success of preventive dentistry in reducing the incidence of oral disease, the growing older population will retain their teeth longer, and will be even more aware of the importance of regular dental care. Dentists will need to use the services of dental technicians more than ever before to meet the increased demand for dental services. [www.ada.org](http://www.ada.org)