

# DENTAL HYGIENE

## ASSOCIATE OF APPLIED SCIENCE (AAS) - 88 CREDITS

### About this program

The Dental Hygiene program provides knowledge and skills to perform critical dental services that detect, prevent and treat diseases of the mouth while working as part of a dental team. Students who complete the program will leave with the skills to provide current, comprehensive dental hygiene services and may find employment in a variety of settings including private dental offices, schools, hospitals and public health clinics. Students interested in an advanced degree in dental hygiene or a related field have a number of transfer options to four-year colleges and universities. The Minnesota Board of Dentistry requires BCA and FBI criminal background checks and fingerprint analysis prior to initial licensure in the state of Minnesota.

### Program outcomes

1. Demonstrate clinical competence required to provide current comprehensive dental hygiene services.
2. Communicate effectively with patients, peers and dental health team providers by utilizing professional written and oral communication.
3. Exhibit ethical behavior consistent with dental professional conduct.
4. Utilize current technology relevant to the dental profession.
5. Demonstrate basic dental office management skills.
6. Apply current concepts of infection control and occupational safety.

### Curriculum overview

| <b>Crds</b> | <b>Requirement type</b> |
|-------------|-------------------------|
| 88          | Required courses        |
| 88          | <b>Total</b>            |

**Developmental courses note:** A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

**Accreditation:** Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 <http://www.ncahigherlearningcommission.org> Phone: 312.263.0456 / 800.621.7440

## Curriculum requirement details

### Required courses

### Other requirements or restricted electives

| Course   | Crds |
|--|------|
| BIOL2202 - Principles of Nutrition .....                       | 3    |
| BIOL2260 - Human Anatomy and Physiology I .....                | 3    |
| BIOL2262 - Human Anatomy and Physiology II .....               | 3    |
| BIOL2267 - Medical Microbiology .....                          | 3    |
| CHEM1100 - Fundamental Concepts of Chemistry .....             | 3    |
| DENT1100 - Biomaterials .....                                  | 3    |
| DENT1102 - Dental Anatomy .....                                | 2    |
| DENT1103 - Introduction for Dental Health Care Providers ..... | 2    |
| DENT1104 - Dental Health Care Providers II .....               | 1    |
| DENT1106 - Dental Radiology Lecture .....                      | 3    |
| DENT1122 - Dental Ethics and Jurisprudence .....               | 1    |
| DNHY1104 - Dental Anatomy Lab .....                            | 1    |
| DNHY1106 - Head and Neck Anatomy .....                         | 2    |
| DNHY1108 - Oral Histology and Embryology .....                 | 2    |
| DNHY1110 - Principles I .....                                  | 2    |
| DNHY1112 - Dental Hygiene Practice I .....                     | 3    |
| DNHY1113 - Radiology Lab I .....                               | 1    |
| DNHY1114 - Radiology Lab II .....                              | 1    |
| DNHY1118 - Oral Pathology .....                                | 2    |
| DNHY1119 - Dental Hygiene Principles II .....                  | 4    |
| DNHY1123 - Dental Hygiene Practice II .....                    | 5    |
| DNHY1124 - Pain Control Lab .....                              | 2    |
| DNHY1130 - Dental Hygiene Principles III .....                 | 1    |
| DNHY1132 - Dental Hygiene Practice III .....                   | 1    |
| DNHY1136 - Dental Pharmacology .....                           | 2    |
| DNHY2210 - Dental Hygiene Principle IV .....                   | 2    |
| DNHY2213 - Dental Hygiene Practice IV .....                    | 6    |
| DNHY2219 - Periodontology .....                                | 2    |
| DNHY2220 - Dental Hygiene Principle V .....                    | 1    |
| DNHY2223 - Dental Hygiene Practice V .....                     | 6    |
| DNHY2226 - Community Dental Hygiene .....                      | 4    |
| DNHY2240 - Clinical Affiliation I .....                        | 1    |
| DNHY2246 - Clinical Affiliation II .....                       | 1    |
| ENGL1101 - College Writing .....                               | 3    |

| <b>Course</b>                             | <b>Crds</b> |
|---|-------------|
| PSYC1200 - General Psychology .....       | 3           |
| SOC1111 - Introduction to Sociology ..... | 3           |



## Course summaries

### **BIOL2202 - Principles of Nutrition** ..... (3 credits)

Meets MnTC Goal Areas 2 and 3. This course is a study of the fundamental principles of nutrition. This course will cover food composition, diet planning, utilization of food nutrients in the body and the requirements for nutrients in infancy, childhood, teen years, athletes, adults and the elderly. Also included are discussions about current trends in nutrition, the relationship of diet and disease, and cultural differences in dietary practices. Using the basic principles of nutrition, students will have a lab-like experience tracking, measuring, calculating and analyzing their diet and presenting the results in a written analytical report.

#### **Prerequisites:**

- CHEM1100

OR

- Instructor permission

OR

- CHEM1111

OR

- BIOL1122

OR

- BIOL2260

### **BIOL2260 - Human Anatomy and Physiology I** ..... (3 credits)

Meets MnTC Goal Area 3. This course is a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. It is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. This course contains a lab-like component.

#### **Prerequisites:**

- Assessment into ENGL 1101 or college level writing equivalent.

### **BIOL2262 - Human Anatomy and Physiology II** ..... (3 credits)

Meets MnTC Goal Area 3. This course is a continuation of Anatomy and Physiology I. Topics will include the study of cells, tissues and organs making up the endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary and reproductive systems. Emphasis is on the structure and function of included systems. This course contains a lab-like component.

#### **Prerequisites:**

- Assessment into ENGL 1101 or college level writing equivalent.
- BIOL2260

### **BIOL2267 - Medical Microbiology** ..... (3 credits)

Meets MnTC Goal Area 3. This course is the study of the structure and the classification of bacteria, viruses, parasites and fungi of medical importance. It emphasizes the transmission of disease agents, signs and symptoms, immunology, immunization, control of microbial growth, specimen collection/transport, methods of identification and antimicrobial resistance. This lecture course includes lab-like components.

#### **Prerequisites:**

- Assessment into ENGL 1101.

### **CHEM1100 - Fundamental Concepts of Chemistry** ..... (3 credits)

Meets MnTC Goal Areas 2 and 3. Course deals with substances, their structures and properties, the changes they undergo and the laws that govern those changes. Intended for prospective elementary teachers, non-science majors and those who need background for General Chemistry. This course includes a lab.

#### **Prerequisites:**

- MATH0095 or placement by assessment

**DENT1100 - Biomaterials** ..... (3 credits)  
This is a foundation course that provides in-depth instruction and practice in identifying the materials and their purposes and properties as they are used during chairside and laboratory procedures. Material manipulation is a critical requirement of the lab component of this course. Laboratory safety measures and infection control are emphasized.

**DENT1102 - Dental Anatomy** ..... (2 credits)  
The lecture portion of the course introduces the student to basic terminology for understanding the structures that form the foundation for tooth function, normal anatomy of the oral cavity, and tooth and root morphology. Special topics include survey of dental anomalies and forensic dentistry.

**DENT1103 - Introduction for Dental Health Care Providers** ..... (2 credits)  
The student will be introduced to fundamental knowledge required in the practice of dentistry. Topics to be covered include blood-borne pathogens, concepts and procedures of infection control, medical emergencies, first aid in the dental setting and patient privacy rights.

**DENT1104 - Dental Health Care Providers II** ..... (1 credits)  
This course will build on student learning in Introduction to Healthcare Providers I. Students will be challenged to go beyond definitions and practices and understand the what, why and how of blood-borne pathogens, concepts, standards and procedures of infection control, medical emergencies, first aid in the dental setting and patient privacy rights.

**DENT1106 - Dental Radiology Lecture** ..... (3 credits)  
This course includes an overview of the history of x-ray development and a review of basic mathematics and radiation physics as they apply to x-ray production. Radiographic film and digital image quality are explored. Explanation of darkroom chemistry, radiation asepsis and safety are covered. Other topics include interpretation of normal anatomy, dental film and digital image analysis, radiographic interpretation and evaluation, and quality assurance issues.

**DENT1122 - Dental Ethics and Jurisprudence** ..... (1 credits)  
This course focuses on the ethical and legal implications of providing dental, dental assisting and dental hygiene care. The practice acts for Minnesota and North Dakota will also be studied.

**DNHY1104 - Dental Anatomy Lab** ..... (1 credits)  
This is a lab course which provides opportunities for the student to work with tooth identification and charting systems, intraoral imagery and occlusion assessment. Special topics include survey of dental anomalies and cavity classifications.

**DNHY1106 - Head and Neck Anatomy** ..... (2 credits)  
This course covers the study of hard and soft tissues of the head and neck including the skeletal, muscular and nervous systems, with particular emphasis on the masticatory system.

**Prerequisites:**

- Acceptance into the dental hygiene program

**DNHY1108 - Oral Histology and Embryology** ..... (2 credits)  
This course covers the study of the microscopic anatomy of the oral tissues and the embryonic development of the face and oral cavity with emphasis on the masticatory system.

**DNHY1110 - Principles I** ..... (2 credits)  
This course introduces the student to dental hygiene with emphasis on theory of preventative dentistry, OSHA standards, disinfectant/sterilants, formation of plaque and calculus, patient assessment and an introduction to the caries process and periodontal assessment.

**DNHY1112 - Dental Hygiene Practice I** ..... (3 credits)  
This course provides an introduction to dental hygiene with emphasis on the practice of preventive dentistry, care and use of equipment, sterilization techniques and an introduction to instrumentation.

**DNHY1113 - Radiology Lab I** ..... (1 credits)  
Dental Hygiene students will be introduced to techniques and processes for exposing digital full-mouth series and extra-oral digital radiographs on skulls and manikins. Students will utilize these techniques and processes to expose digital radiographs and evaluate them for diagnostic value according to M State Dental Criteria for Radiographic Acceptability.

**Corequisites:**

- DENT1106

**DNHY1114 - Radiology Lab II** ..... (1 credits)  
 Dental Hygiene students will be introduced to techniques and processes for exposing digital full-mouth series and extra-oral digital radiographs on skulls, manikins and patients. Students will utilize these techniques and processes to expose digital radiographs and evaluate them for diagnostic value according to M State Dental Criteria for Radiographic Acceptability.

**Prerequisites:**

- DENT1106
- DNHY1113

**DNHY1118 - Oral Pathology** ..... (2 credits)  
 This course covers the study of general processes as well as oral disease processes. Special emphasis is placed on clinical and radiographic recognition of pathology of the oral cavity.

**Prerequisites:**

- Accepted into the dental hygiene program and successful completion of Principles I, II, III; Head and Neck Anatomy; and Oral Histology and Embryology

**DNHY1119 - Dental Hygiene Principles II** ..... (4 credits)  
 In this course, students will continue their study of the dental hygiene process of care introduced in DNHY 1110, focusing on dental hygiene diagnosis, care planning (including patients with special needs) and non-surgical periodontal therapy.

**DNHY1123 - Dental Hygiene Practice II** ..... (5 credits)  
 This course is a continuation of DNHY 1112, Dental Hygiene Practice I, and introduces the student to further instrumentation theory, instrumentation techniques and procedures, clinical protocol, evaluation of medical/dental histories and radiographic surveys as prescribed by a dentist. This course provides opportunity for the student to develop competence in clinical procedures.

**Prerequisites:**

- DNHY1112

**DNHY1124 - Pain Control Lab** ..... (2 credits)  
 This course provides the dental hygiene student with the knowledge and skills necessary to administer local anesthesia and other methods of pain control during dental procedures without inducing detrimental physiological side effects.

**Prerequisites:**

- DNHY1106
- DNHY1136

**DNHY1130 - Dental Hygiene Principles III** ..... (1 credits)  
 In this course, students will study the Minnesota Board of Dentistry delegated procedures for dental hygienists. Topics include intra-oral/extra-oral photography, enamel sealants, periodontal dressing placement, bleaching agents, suture removal and gingival displacement.

**Prerequisites:**

- DNHY1119

**Corequisites:**

- DNHY1132

**DNHY1132 - Dental Hygiene Practice III** ..... (1 credits)  
 This lab course is a continuation of DNHY1123 with emphasis on Minnesota Board of Dentistry allowable procedures for dental hygienists.

**Prerequisites:**

- DNHY1123

**DNHY1136 - Dental Pharmacology** ..... (2 credits)  
 This course introduces dental hygiene students to basic drug categories, pharmacological pain control principles and various anesthesia techniques, with special emphasis on a succinct accounting of drugs as they relate to dentistry.

**DNHY2210 - Dental Hygiene Principle IV** ..... (2 credits)  
This course is a continuation of DNHY 1130 and introduces the student to dietary counseling, with special emphasis on advanced dental hygiene techniques including periodontal assessment and debridement, power instrumentation and implant maintenance.

**Prerequisites:**

- DNHY1130

**DNHY2213 - Dental Hygiene Practice IV** ..... (6 credits)  
This course is a continuation of DNHY1132 with emphasis on the treatment of moderate to advanced periodontal disease, the development of speed and an introduction to several advanced dental hygiene techniques.

**Prerequisites:**

- DNHY1132
- The student must be accepted into the dental hygiene program and comply with the Dental Program Student/Faculty Handbook.

**Corequisites:**

- DNHY2240

**DNHY2219 - Periodontology** ..... (2 credits)  
This course covers the pathogenesis, diagnosis and treatment of periodontal disease. Emphasis will include the progression of periodontal disease, diagnostic methods, treatment modalities, advanced instrumentation and the role of the dental hygienist as a periodontal co-therapist.

**DNHY2220 - Dental Hygiene Principle V** ..... (1 credits)  
This course is a continuation of DNHY2210 and dental hygiene patient oral risk assessments. Special focus includes topics of interest to the graduating hygienist including smoking cessation, extraoral/ intraoral self exam, resume writing, interview skills, professional development, service to the community and involvement in the professional association.

**Prerequisites:**

- DNHY2210

**DNHY2223 - Dental Hygiene Practice V** ..... (6 credits)  
This course is a continuation of DNHY2213 with emphasis on the treatment of moderate to advanced periodontal disease, the development of speed and an introduction to several advanced dental hygiene techniques.

**Prerequisites:**

- DNHY2213
- The student must be accepted into the dental hygiene program and comply with the Dental Program Student/Faculty Handbook.

**Corequisites:**

- DNHY2246

**DNHY2226 - Community Dental Hygiene** ..... (4 credits)  
The lecture portion of this course introduces the student to the disciplines and basic principles of dental public health, epidemiological methods and biostatistical measurement and analysis. The lab portion of this course enables the student to plan, implement and evaluate a community dental hygiene research project and participate in a community dental service project and screening.

**DNHY2240 - Clinical Affiliation I** ..... (1 credits)  
This course consists of clinical rotations off campus in public health facilities to enhance dental hygiene clinical experience. The student will be introduced to a variety of dental hygiene experiences.

**Corequisites:**

- DNHY2213

**DNHY2246 - Clinical Affiliation II** ..... (1 credits)  
This course consists of clinical rotations off campus in public health facilities to enhance dental hygiene clinical experience. The student will be introduced to a variety of dental hygiene experiences.

**Corequisites:**

- DNHY2223

**ENGL1101 - College Writing** ..... (3 credits)

Meets MnTC Goal Area 1. This is an introductory writing course designed to prepare students for later college and career writing. The course focuses on developing fluency through a process approach, with particular emphasis on revision. Students will consider purpose and audience, read and discuss writing and further develop their own writing processes through successive revisions to produce polished drafts. Course work will include an introduction to argumentative writing, writing from academic sources and a short research project.

**Prerequisites:**

- Completion of ELL1080, ENGL0096, or ENGL0097 with a grade of C or higher OR placement into college-level English.

**PSYC1200 - General Psychology** ..... (3 credits)

Meets MnTC Goal Areas 5 and 9. This is a comprehensive introductory overview of psychology that studies human behavior and mental processes. Topics include (but are not limited to) research methods, the history of psychology, neuroscience and behavior, developmental psychology, sensation and perception, motivation and emotion, health psychology, learning and memory, personality, social psychology, psychopathology and treatments, and states of consciousness such as sleep and dreams.

**SOC1111 - Introduction to Sociology** ..... (3 credits)

Meets MnTC Goal Areas 2, 5 and 7. This course is an introduction to the study of societies and the social factors that influence individual and group behavior. The course incorporates sociological and other critical thinking models for the investigation of various components of social life: culture, socialization, social organization, social stratification, social institutions, populations dynamics and social change.



# DENTAL HYGIENE

## ASSOCIATE OF APPLIED SCIENCE (AAS) - 88 CREDITS

### Program Plan — "Primary"

Locations: Moorhead

#### 1st Fall Term (16 credits)

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##### Courses

| Course   | Crds |
|--|------|
| DENT1100 - Biomaterials .....                    | 3    |
| DENT1104 - Dental Health Care Providers II ..... | 1    |
| DENT1106 - Dental Radiology Lecture .....        | 3    |
| DNHY1104 - Dental Anatomy Lab .....              | 1    |
| DNHY1106 - Head and Neck Anatomy .....           | 2    |
| DNHY1110 - Principles I .....                    | 2    |
| DNHY1112 - Dental Hygiene Practice I .....       | 3    |
| DNHY1113 - Radiology Lab I .....                 | 1    |

#### 1st Spring Term (16 credits)

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##### Courses

| Course   | Crds |
|--|------|
| DNHY1108 - Oral Histology and Embryology ..... | 2    |
| DNHY1114 - Radiology Lab II .....              | 1    |
| DNHY1119 - Dental Hygiene Principles II .....  | 4    |
| DNHY1123 - Dental Hygiene Practice II .....    | 5    |
| DNHY1136 - Dental Pharmacology .....           | 2    |
| DNHY2219 - Periodontology .....                | 2    |

#### 1st Summer Term (28 credits)

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##### Courses

| Course   | Crds |
|--|------|
| BIOL2202 - Principles of Nutrition .....                       | 3    |
| BIOL2260 - Human Anatomy and Physiology I .....                | 3    |
| BIOL2262 - Human Anatomy and Physiology II .....               | 3    |
| BIOL2267 - Medical Microbiology .....                          | 3    |
| CHEM1100 - Fundamental Concepts of Chemistry .....             | 3    |
| DENT1102 - Dental Anatomy .....                                | 2    |
| DENT1103 - Introduction for Dental Health Care Providers ..... | 2    |
| ENGL1101 - College Writing .....                               | 3    |
| PSYC1200 - General Psychology .....                            | 3    |
| SOC1111 - Introduction to Sociology .....                      | 3    |

#### 2nd Fall Term (15 credits)

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##### Courses

| <b>Course</b>                                | <b>Crds</b> |
|--|-------------|
| DNHY1118 - Oral Pathology .....              | 2           |
| DNHY2210 - Dental Hygiene Principle IV ..... | 2           |
| DNHY2213 - Dental Hygiene Practice IV .....  | 6           |
| DNHY2226 - Community Dental Hygiene .....    | 4           |
| DNHY2240 - Clinical Affiliation I .....      | 1           |

## 2nd Spring Term (9 credits)

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### Courses

| <b>Course</b>                                    | <b>Crds</b> |
|--|-------------|
| DENT1122 - Dental Ethics and Jurisprudence ..... | 1           |
| DNHY2220 - Dental Hygiene Principle V .....      | 1           |
| DNHY2223 - Dental Hygiene Practice V .....       | 6           |
| DNHY2246 - Clinical Affiliation II .....         | 1           |

## 2nd Summer Term (4 credits)

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### Courses

| <b>Course</b>                                  | <b>Crds</b> |
|--|-------------|
| DNHY1124 - Pain Control Lab .....              | 2           |
| DNHY1130 - Dental Hygiene Principles III ..... | 1           |
| DNHY1132 - Dental Hygiene Practice III .....   | 1           |