

Syllabus for DA 156, Dental Assisting Fundamentals (Chairside)

Course Information

Semester & Year: Fall 2022

Course ID & Section #: DA 156 E3863 and DA 156 E3864

Prerequisites: DA 150, Dental Assisting Program Orientation

Co-requisites: DA 153, DA 154, DA155, DA 156C

Instructor's Name: Hillary Reed RDAEF/ CDA (Lecture), Raynell Tindall (Lab)

Number of Lecture Proctored Exams: 4 Number of Lab Proctored Exams: 8

Number of Units: 3

Lecture Hours: 36 Laboratory Hours: 54

Day/Time:

Thursday Lecture (E3863/E3864): 12:30-3:05

Friday Lab (E3863): 7:30-10:35 Friday Lab (E3864): 10:45-1:50

Location: AT 112 (lab) and AT 115 (lecture)

Number of Units: 3 (Lecture hours: 36 Lab hours: 54)

Instructor Contact Information

Office Location: AT 101

Office Hours: Thursdays, Fridays, and by appointment

Phone Number: 707-476-4250

Program Coordinator Phone Number: 707-476-4253

Program Coordinator Email Address: Hillary-reed@redwoods.edu

Absences: In the event of emergency contact 476-4250. To be eligible for alternative exams the absence must be

reported $\frac{1}{2}$ hour prior to the beginning of class. Excessive absences will result in Program dismissal.

Required Materials

Textbook Title: Modern Dental Assisting, 13th Edition with Workbook (ISBN: 978-0-323-62485-5)

Author: Bird and Robinson

Textbook Title: Dental Instruments, 7th Edition (ISBN: 978-0-323-67243-6)

Author: Bartolomucci-Boyd

Other requirements: Dental Assisting Program Handbook, Uniform, Personal Protective Equipment, and Dental Kit

Course Description

Course Student Learning Outcomes

- 1. Demonstrate the ability to follow verbal and written directives when competently demonstrating a variety of basic dental assisting skills, duties, and functions.
- 2. Exhibit safety, managing infection and hazard protocol consistent with guidelines and mandates to prevent disease and infection transmission.
- 3. Function as a chairside dental assistant performing fundamental duties common to four-handed general dentistry to the pre-clinical competency level as prescribed by the dentist and the California Dental Practice Act.
- 4. Demonstrate patient management when gathering information pre-operatively and providing post-operative directions as prescribed by the dentist to the pre-clinical competency level.

A basic introduction to four-handed dentistry. Basic technique development and implementation of essential dental assisting skills, duties, and functions to the pre-clinical competence level is emphasized in clinical dentistry. Customary duties are practiced in preparation for clinical competency in patient care. Note: Acceptance into the program is required prior to enrollment. Applications are accepted February 1-August 1. Uniform required.

Course Objective

1. Apply didactic content and demonstrate pre-clinical competence (laboratory) prior to practical application of dental assisting duties and chairside functions in patient care.

Pre-requisites and Co-requisites

The Dental Assisting Program is approved by the Dental Board of California (DBC) and Commission on Dental Accreditation as a cohort of classes to fulfill the hour requirements of a minimum of 900 instructional hours at the post-secondary level that includes 300 clinical practice hours. Additionally, didactic, laboratory, pre-clinical, and clinical content must be covered.

The Dental Assisting Program of Study requires the student to successfully complete the requirements of DA 150 prior to enrolling in the fall semester cohort of courses DA 153, DA 154, DA 155, DA 156, and DA 156C. Students are enrolled in these courses concurrently. Curriculum reiterates and combines concepts, information, and proficiencies from other courses to prepare students for the clinical setting.

Course Content Outline

- 1. Infection Prevention in Dentistry
- 2. Delivering Dental Care
- 3. Moisture Control
- 4. Coronal Polish
- 5. Anesthesia and Pain Control
- 6. Patient Record and Treatment Planning

Specific Didactic Course Skill Sets (Objectives)

- 1. Apply learned theory to patient care.
- 2. Demonstrate ability to follow directions and given protocol.

Infection Prevention in Dentistry:

- 3. List the dental equipment most commonly found in a dental treatment area (operatory) and their basic function.
- 4. Describe the morning and evening routines for dental assistants and explain why the processes are performed.
- 5. Describe the roles of the CDC and OSHA in infection prevention in the dental office setting.
- 6. Explain the importance of OSHA Bloodborne Pathogen Standard and the components of the exposure control plan.
- 7. Identify the OSHA categories of risk for occupational exposure.
- 8. Define universal and standard precautions.
- 9. Discuss protocol identifying personal protective equipment and applications.
- 10. Explain how to prevent cross-contamination and protocol used to prevent cross-contamination.

- 11. Discuss pre-cleaning and disinfecting.
- 12. Explain the difference between disinfection and sterilization.
- 13. Identify the government agency that registers the disinfectant.
- 14. Explain how to properly pre-clean and disinfect a dental treatment area (operatory).
- 15. Identify when to use barriers and how to apply barriers.

Patient Information and Assessment:

- 16. Describe the importance of the health history for all patients including the special needs/medically compromised.
- 17. List the common medical alerts, and identify why conditions and medications are reviewed with the patient prior to beginning dentistry.
- 18. Describe how to take all vital signs (blood pressure, heart rate, respiration rate, and temperature)
- 19. Identify normal perimeters for all vital signs.
- 20. Identify vital sign perimeters making patients ineligible for dental care due to patient safety.

Delivering Dental Care and Ergonomic Positioning:

- 21. Discuss ergonomics and classifications of movement in the dental office setting and the risk factors that contribute to injury.
- 22. Describe how the operator and assistant are properly positioned during treatment.
- 23. Discuss the concept of team dentistry 4-handed and 6-handed, defining each of the operating zones.
- 24. List the four vital signs routinely taken in the dental setting, and how to obtain these vital signs to assess patient health status.
- 25. Describe how to prepare for the dental treatment prior to patient's arrival, reviewing health history and records.
- 26. Discuss the classifications of instruments, sequence, and organization using color-coding and preset trays and cassettes.
- 27. Describe commonly used handpieces and accessories used in the dental setting.
- 28. Describe the processes and principles of cavity preparation.
- 29. Discuss the differences in assisting with the different classes of permanent restorations.

Moisture Control:

- 30. List isolation techniques used to decrease moisture during a dental procedure, including a dental dam.
- 31. Describe the placement and special applications of a dental dam.
- 32. Discuss oral evacuation techniques and positioning with use of the air/water syringe.
- 33. Identify primary source of microorganisms in the dental unit water lines (DUWLs) and describe methods to reduce microorganisms in the DUWLs.

Coronal Polish:

- 34. Explain the difference between prophylaxis and coronal polishing, and the contraindications for polishing.
- 35. Explain the importance of selecting the appropriate polishing agent and describe selective polishing.
- 36. Name and describe extrinsic stains and the two categories of intrinsic stains, and the methods used to remove plaque and stain.
- 37. Discuss the steps of coronal polishing, including safety precautions, correct sequence, flossing after polishing, and evaluation of polishing.

Anesthesia and Pain Control:

- 38. Define properties of anesthetics and list the guidelines for handling anesthetic syringes, cartridges, and needles.
- 39. Describe the composition and application of topical anesthetic.
- 40. Describe injection techniques used for local anesthesia administration.
- 41. Describe nitrous-oxide/oxygen sedation in dentistry and the precautionary measures taken.
- 42. Define antianxiety agents and list commonly used medications.
- 43. Discuss documentation of anesthesia and pain control in the patient record.

Patient Record and Treatment Planning:

- 44. Explain the importance of the patient's dental record, explaining the components and forms, including patient compliance, its legal significance, and how the dentist uses the record to manage treatment.
- 45. List and describe the examination and diagnostic techniques used for patient assessment and diagnostics.
- 46. Discuss documentation of the dental examination using the anatomic/ geometric diagram, color-coding, and

symbols in both the digital record and paper chart.

- 47. Discuss the role of the dental assistant in recording periodontal pocket depth, mobility, bleeding index, soft tissue exam, and oral cancer screen.
- 48. Discuss the importance of treatment planning and sequencing of treatment.

Specific Pre-Clinical Course Skill Sets (Objectives)

Infection Prevention in Dentistry:

- 1. Apply first-aid after an exposure incident and follow program protocol for reporting injuries.
- 2. Demonstrate proper handwashing for a healthcare provider, identifying when handwashing is mandatory.
- 3. Demonstrate application of an alcohol-based hand sanitizer, identifying when to use it in the healthcare setting.
- 4. Demonstrate completion of the morning and evening routines in an efficient and accurate manner.
- 5. Exhibit putting on personal protective equipment in proper order, and removing in proper order.
- 6. Demonstrate treatment room (operatory) pre-cleaning and disinfecting for patient care, according to protocol.
- 7. Display placing and removing surface barriers for patient care, according to program protocol.
- 8. Manage infection and hazard control protocol consistent with published professional guidelines and safety regulations.

Patient Information and Assessment

- 9. Seat and dismiss patients.
- 10. Take/review and record medical and dental histories.
- 11. Take and record vital signs.
- 12. Assist with soft tissue extra/intra oral examinations.

Delivering Dental Care and Ergonomic Positioning:

- 13. Demonstrate the exercises that can reduce muscle fatigue and strengthen muscles, including exercises to reduce eyestrain and neck strain.
- 14. Identify dental equipment, instruments, materials, and supplies.
- 15. Prepare operatory and tray setups for a variety of preventative and restorative general dentistry procedures.
- 16. Perform a variety of instrument transfers in proper sequence anticipating the dentist's needs.
- 17. Utilize appropriate chairside assistant ergonomics and positioning.
- 18. Provide patient preventative education and oral hygiene instruction.
- 19. Provide pre-and post-operative instructions prescribed by a dentist.

Moisture Control:

- 20. Operate oral evacuation devices and air/water syringe.
- 21. Maintain a clear field of vision including isolation techniques.
- 22. Apply and remove a dental dam.

Coronal Polish:

- 23. Perform polishing of coronal surfaces of the teeth using appropriate polishing agent and demonstrate using disclosing solution for quality control.
- 24. Demonstrate flossing after coronal polishing to remove stain and debris interproximally.

Patient Record and Treatment Planning:

- 25. Identify components of the dental record both digitally and hard copy.
- 26. Perform dental charting.
- 27. Maintain accurate patient treatment records both digitally and hard copy.

Specific Clinical Course Skill Sets (Objectives)

Prior to performing dental assisting functions/duties in the clinical setting, students must demonstrate laboratory/preclinical competency to a 75% or better to comply with CODA and DBC requirements for the following:

- 1. Manage infection and hazard control protocol consistent with requirements and guidelines.
- 2. Demonstrate proper hand-washing, personal protective equipment donning and removing.
- 3. Identify and respond to medical and dental emergencies.
- 4. Take and review record medical and dental histories.
- 5. Seat and dismiss patients.
- 6. Prepare operatories and set-ups for a variety of general dentistry procedures.
- 7. Operate oral evacuation devices and air/water syringe.
- 8. Maintain a clear field of vision demonstrating a variety of isolation techniques.
- 9. Assist with and place and remove a rubber dam.
- 10. Perform a variety of instrument transfers.
- 11. Utilize proper chairside assistant ergonomics.
- 12. Provide pre-operative and post-operative instructions prescribed by a dentist.
- 13. Perform polishing of coronal surfaces of the teeth.
- 14. Assist with or apply desensitizing agents.
- 15. Apply topical anesthetic, load syringe assembly, and assist with anesthetic delivery.
- 16. Assist and perform dental charting both traditional document and digital software.
- 17. Maintain accurate treatment records both traditional document and digital software.

Handbook

All students have signed acknowledgement that they have accessed the Dental Assisting Handbook in Canvas, as well as read and agreed to detailed information provided regarding information, notifications, requirements, policies, rules and disciplinary actions. The Handbook further discusses Student Support Services, Grading Policies, Disruptive Behavior, and Emergency Procedures.

Canvas Information

College of the Redwoods Canvas System is used by students and the instructors for grade tracking, referencing handouts (files), and discussion participation. Students can access Canvas at any time, using their college e-mail and password to determine their current grade in the course as well as specific scores for completed participation, assignments, or exams/ quizzes. Instructors enter grades weekly.

Log into Canvas at https://redwoods.instructure.com

Password is your 6-digit birth date

For tech help, email its@redwoods.edu or call 707-476-4160

Students can have an alternate first name and pronouns to appear in Canvas. Contact <u>Admissions & Records</u> to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. It does not change your legal name in our records. See the <u>Student Information Update form</u>.

Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or <u>Disability Services and Programs for Students</u> (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

Eureka: 707-476-4280, student services building, 1st floor

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of Face-to-face instruction, please present your written accommodation request to your instructor at least one week before the needed accommodation so that necessary arrangements can be made. Last minute arrangements or post-test adjustments usually cannot be accommodated.

Lecture and Lab Preparation

Students are to have read assigned chapters prior to arriving to lecture and lab. The lecture and lab activities are designed to assist the students in comprehending the content and preparing for the clinical setting.

Each week the student will participate in activities designed to reinforce the information discussed in lecture. A "Preclinical Competency Tracking Sheet" is used to determine participation and preparedness. Step-by-step procedures in the textbook include illustrations, the equipment and supplies needed, icons, and the rationale behind certain steps. These step-by-step procedures are used to practice in the lab setting to prepare for RDA Skills Competency Tests required prior to performing the function in the clinical setting. The step-by-step procedures are provided in the MDA 13th Edition Workbook.

Lecture Examinations

All lecture examinations will be administered in the beginning of class. The exam will consist of multiple choice, true/false, fill in the blank, short answer, and identification questions. Please refer to your course syllabus for exam times, dates, and chapters covered.

Practical Examinations

Practical examinations provide assessment for participation in the clinical setting. Students must earn a minimum of 75% on all RDA Skills Competency Tests and Instrument Identifications/Tray Set-up Exams to participate in the clinical setting. Students are allowed two attempts. The grade earned on the first attempt will be the grade recorded in Canvas. Students scoring below a 75% will require remediation, allowing for the second attempt. Remediation allows the student to score a 75% or above on the second attempt, allowing for participation in the clinical setting.

After remediation, if the student continues to score 74% or below on the second attempt the student will not be able to participate in the clinical setting due to unpreparedness and safety concerns in patient care. Likewise students requiring more than 2 remediation contracts throughout the semester will not be able to participate in the clinical setting and will be dropped from the course.

Clinical Labs

Clinical performance is evaluated by the clinical instructors on the specific procedures assigned using the Procedural Evaluation Forms where the student is assigned to patient care. These forms are completed for each procedural assignment given in the clinical session, establishing the performance objective, grading and specific procedural criteria.

Procedural Evaluation Forms are collected during the clinical session after students have reviewed their earned grade and read written feedback by faculty.

The Clinical Evaluation is based on course objectives derived from Program Learning Outcomes. This evaluation form provides the student with their clinical grade, informs the student of his/her progress in meeting clinical objectives, identifies what additional learning is required, and makes recommendations to improve and/or to meet objectives. Further information is available in the Clinical Handbook.

Work Readiness Points

To be successful in the workforce, students have to develop skill sets and healthy work habits necessary for lasting employment.

Students are awarded five Pay Day Points for full participation in the activities and tasks assigned to each class session (lab and lecture), where all requirements, policies, and rules are followed as stated in the Program Handbook. Students begin the course with zero Pay Day Points. Pay Day points will be factored into the course grade.

Students not participating in activities or tasks or not following requirements, policies, and rules or who are absent will not acquire any Pay Day Points for that class session(s). This includes those that are tardy or leave early. Additionally disciplinary action (as outlined in the Program Handbook) for the second, third, and fourth offense will affect the final course grade negatively.

Dental Assisting Program Grading Scale

The Commission on Dental Accreditation and the Dental Board of California require the lecture and lab grade to be 75% or better. The Dental Assisting Program courses are sequential and have co-requisites. Students not passing with a 75% or better in the course cannot continue.

Grade	Percentage	Definition
А	96-100	Outstanding progress
A-	90-95	Outstanding progress
B+	87-89	Above average progress
В	84-86	Above average progress
B-	81-83	Average Progress
C+	78-80	Satisfactory Progress
С	75-77	Lowest acceptable Progress
D	65-74	No progression,
F	<65	Failure
W	N/A	Official Withdrawal

Course Requirements

Overall Course Grade Calculation:

The overall course grade is weighted and determined by an average. Students cumulative scores on quizzes (15%), written exams (40%), practical (lab) exams (40%), and participation (5%) are averaged together to generate a percentage determining the overall course grade.

Participation Portion:	Weighted 5% of total grade
Pay Day – Work Readiness Points	
5 points per lecture and 5 points per lab	
Quiz Portion:	Weighted 15% of total grade
1 Quiz (40 points)	
2 Spelling Tests (25 points each)	
Written Exam Portion:	Weighted 40% of total grade
3 Written Exams (150 points each)	
1 Written Final Exam (300 points)	
Practical Exam Portion:	Weighted 40% of total grade
7 RDA Skills Competency Tests (100 points each)	
1 Instrument Identification and Tray Set-up Exam (100 points)	

Special Note

The course instructor(s) and/or the Program Coordinator have the right to at any time for any reason alter any content of the course syllabus. Course content alterations can only be done by faculty at their discretion.

Course Schedule of Activities and Assignments

Week 1

Unit: Infection Prevention in Dentistry

Thursday, August 25 (Lecture)

Textbook reading assignment in preparation for lecture class:

Textbook reading assignment in preparation for lecture class:

Chapter 2 The Professional Dental Assistant

Chapter 3 The Dental Healthcare Team

Chapter 4 Dental Ethics

Chapter 32 The Dental Office

Friday, August 26 (Lab)

Textbook Procedure Competencies: 32.1, 32.2 (AM/ PM lists) Identification of the Dental Setting, Teamwork

Week 2

Unit: Infection Prevention in Dentistry

Thursday, September 1 (Lecture)

Chapter 19 Disease Transmission and Infection Control

Chapter 20 Principles and Techniques of Disinfection

Chapter 21 Principles and Techniques of Instrument Processing

Friday, September 2 (Lab)

Textbook Procedure Competencies: 19.1, 19.2, 19.3, 19.4, 19.5, 20.1, 20.2, 21.1, 21.2, 21.5, 21.7, 32.1, 32.2

Week 3

Unit: Infection Prevention in Dentistry

Thursday, September 8 (Lecture)

Textbook reading assignment in preparation for lecture class:

Chapter 19 Disease Transmission and Infection Control

Chapter 20 Principles and Techniques of Disinfection

Chapter 21 Principles and Techniques of Instrument Processing

Friday, September 9 (Lab)

Textbook Procedure Competencies: 19.1, 19.2, 19.3, 19.4, 19.5, 20.1, 20.2, 21.1, 21.2, 21.5, 21.7, 32.1, 32.2

Unit: Delivering Dental Care

Thursday, September 15 (Lecture)

EXAM #1 (CH.19, 20, 32)

Textbook reading assignment in preparation for lecture class:

Chapter 19 Disease Transmission and Infection Control

Chapter 20 Principles and Techniques of Disinfection

Chapter 21 Principles and Techniques of Instrument Processing

Friday, September 16 (Lab)

RDA SKILLS COMPETENCY TEST #1

(PPE Donning/ Removing, Disinfection and Operatory Turn Around)

Textbook Procedure Competencies: 33.1, 33.2, 33.3, 33.4, 33.5, 27.1, 27.2, 27.3, 27.4

Week 5

Unit: Delivering Dental Care

Thursday, September 22 (Lecture)

Textbook reading assignment in preparation for lecture class:

Textbook reading assignment in preparation for lecture class:

Chapter 25 Ergonomics

Chapter 27 Vital Signs

Chapter 33 Delivering Dental-Care

Friday, September 23 (Lab)

Textbook Procedure Competencies: Practice adjusting light and positioning, 33.1, 33.2, 33.3, 33.4, 33.5, 27.1, 27.2, 27.3, 27.4, Demonstrate proper patient dismissal using an Eaglesoft generated Router.

Week 6

Unit: Delivering Dental Care

Thursday, September 29 (Lecture)

EXAM#2 (CH. 25, 27, 33)

Textbook reading assignment in preparation for lecture class:

Chapter 34 Dental Hand Instruments

Chapter 35 Dental Handpieces and Accessories

Chapter 48 General Dentistry

Friday, September 30 (Lab)

RDA SKILLS COMPETENCY TEST #2

(Seat/Dismiss Patient, Take/Review Health Histories, Take/Record Vital Signs)

Unit: Delivering Dental Care

Thursday, October 6 (Lecture)

Textbook reading assignment in preparation for lecture class:

Chapter 34 Dental Hand Instruments

Chapter 35 Dental Handpieces and Accessories

Chapter 48 General Dentistry

Friday, October 7 (Lab)

RDA SKILLS COMPETENCY TEST #3

(Using Indirect Vision, Variety of Instrument Transfers, and Positioning (Ergonomics)

Week 8

Unit: Moisture Control

Thursday, October 13 (Lecture)

Textbook reading assignment in preparation for lecture class:

Chapter 36 Moisture Control Chapter 24 Dental Unit Waterlines

Friday, October 14 (Lab)

INSTRUMENT IDENTIFICATION and TRAY SET UP TEST (Hand Instruments and Rotary Instruments)

Textbook Procedure Competencies: 36.1, 36.2, 36.3, 36.4, 24.1

Week 9

Unit: Moisture Control

Thursday, October 20 (Lecture)

Textbook reading assignment in preparation for lecture class:

Chapter 36 Moisture Control Chapter 24 Dental Unit Waterlines

Friday, October 21 (Lab)

RDA SKILLS COMPETENCY TEST #4

(Operate Oral Evacuation Devices, HVE Placement, Maintain Clear Field of Vision, Rinsing, Isolation Techniques and Dental Dam)

Week 10

Unit: Coronal Polish

Thursday, October 27 (Lecture)

Textbook reading assignment in preparation for lecture class:

Chapter 58 Coronal Polishing

Friday, October 28 (Lab)

Textbook Procedure Competencies: 58.1 (typodont and then peer), 15.3 (flossing), 15.1 (topical fluoride), practice evacuation and rinsing

Unit: Coronal Polish

Thursday, November 3 (Lecture)

EXAM #3 (CH. 24, 34, 35, 36, 48)

Textbook reading assignment in preparation for lecture class: Chapter 58 Coronal Polishing

Friday, November 4 (Lab)

RDA SKILLS COMPETENCY TEST #5

(Coronal Polish with Topical Fluoride Application)

Week 12

Unit: Anesthesia and Pain Control

Thursday, November 10 (Lecture)

CORNONAL POLISH WRITTEN EXAM

Textbook Procedure Competencies: 37.1, 37.2, 37.3, 37.4, 29.1

Friday, November 11 (Lab)

Holiday – Veteran's Day

Week 13

Unit: Anesthesia and Pain Control

Thursday, November 17 (Lecture)

Quiz #1 (CH. 37)

Textbook reading assignment in preparation for lecture class:

Chapter 37 Anesthesia and Pain Control

Chapter 29 The Special Needs and Medically Compromised

Friday, November 18 (Lab)

RDA SKILLS COMPETENCY TEST #6

(Topical Placement and Syringe Assembly) Disassembly)

Textbook Procedure Competencies: 37.1, 37.2, 37.3, 37.4, 29.1

Week 14

Monday, November 21 – Friday, November 25

Thanksgiving Holiday Week

Unit: Patient Record and Treatment Planning

Thursday, December 1 (Lecture)

SPELLING TEST #1

Textbook reading assignment in preparation for lecture class:

Chapter 26 The Patient Record

Chapter 28 Oral Diagnosis and Treatment Planning

Friday, December 2 (Lab)

RDA SKILLS SHEET DUE

Textbook Procedure Competencies: 26-2, 26-3, 26-4, 28-1, 28-2, 28-3, 28-4

Week 16

Unit: Patient Record and Treatment Planning

Thursday, December 8 (Lecture)

SPELLING TEST #2

Textbook reading assignment in preparation for lecture class:

Chapter 26 The Patient Record

Chapter 28 Oral Diagnosis and Treatment Planning

Friday, December 9 (Lab)

RDA SKILLS COMPETENCY TEST #7

(Dental Charting, Maintaining Patient Treatment Records, and Treatment Planning)

Textbook Procedure Competencies: 26-2, 26-3, 26-4, 28-1, 28-2, 28-3, 28-4

RDA SKILLS SHEET DUE

Week 17

Thursday, December 15 (Lecture)

Final Written Exam – General Dentistry/Chairside Content (DA 154/ DA 156)