Texas A&M University College of Dentistry  
Caruth School of Dental Hygiene  

Course Syllabus  

**Course Number and Name:** DDHS 4715 Research Methods  

**Course Type:** Lecture Laboratory Clinical Seminar **Independent Study**  

**Academic Year/Semester Offered:** 2017-2018 _X_ Fall ___ Spring ___ Summer Session  

**Course Director:** Faizan Kabani, RDH, PhD  

**Other Participating Faculty:**  
Emet Schneiderman, PhD  
Eric Fox, RDH, MS  
Jane Cotter, RDH, MS  
Joyce McFadden, MLS  
Kathleen Muzzin, RDH, MS  
Lisa Mallonee, BSDH, MPH, RD, LD  
Mary Vu, RDH, MS  

**Course Description:**  
Identification of research problems and variables; sampling; research design; statistical testing of data; critical review of dental literature; table clinic development for presentation to the public and professional groups.  

**Course Objectives:**  
By the end of the course, the student will be able to:  
1. Explain how research informs knowledge development and daily practice.  
2. Differentiate between sources of human knowledge relative to research approaches.  
3. Explain how EBDM approach enhances critical thinking & professional decision-making.  
4. Describe the scientific method and research process and its relevance to health care.  
5. Gain an appreciation for the role of research in evidence-based oral health practice.  
6. Evaluate the merits and limitations of oral health care research articles by applying the concepts of research design and methodology.  

*In addition to these general course objectives, each unit of study has its own specific set of objectives listed at the beginning of the chapter and corresponding power point presentation.*  

**Learning Outcomes/ Related Competencies:**  
The following list of beginning competencies identifies the knowledge, skills and attitudes the dental hygiene student must acquire by graduation in order to become a competent, curious and caring practitioner of dental hygiene. This course will begin to address these specific competencies that will be needed to treat patients in a professional and competent manner. Refer to **Competencies for the Dental Hygienist, Caruth School of Dental Hygiene, revised 5/2013.**  

**Ethics**  
1.1 Apply ethical reasoning to dental hygiene and practice with professional integrity.
**Information Management and Critical Thinking**

2.1 Apply critical thinking skills and evidence based decision making to the practice of dental hygiene.

2.2 Commit to self-assessment and lifelong learning in order to provide contemporary clinical care.

2.3 Effectively communicate with diverse populations without discrimination.

2.4 Employ the principles of scientific writing.

**Professional Identity**

3.1 Prepare for career opportunities within health care, industry, education, research, and other roles as they evolve for the dental hygienist.

3.2 Advance and promote the values of the profession through leadership, service activities, and affiliation with professional organization.

3.3 Contribute towards the knowledge base of the dental hygiene profession.

**Community Involvement**

5.3 Influence the public (consumer groups, businesses and government agencies) to support important health care issues.

**Evaluation Criteria/Methods**

Conscientious attention to deadlines, course-meeting times, completion of reading and/or written assignments, and active participation in all class activities can have a favorable impact on your learning, as well as that of your classmates.

**Grading:**

The final grade will be based on the following:

<table>
<thead>
<tr>
<th>Assessment Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination I</td>
<td>25%</td>
</tr>
<tr>
<td>Examination II</td>
<td>25%</td>
</tr>
<tr>
<td>Journal Club</td>
<td>20%</td>
</tr>
<tr>
<td>Informative Poster Development</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Note:** Assessment specific guidelines and rubrics are available as appendices; Final course grades will be rounded to the tenth decimal point (i.e. 89.50 will round up to a 90, whereas an 89.49 will round down to an 89.)

**Grading Scale:**

A= 90-100  B= 80-89  C= 75-79  D= 70-74  F= <70

**Professionalism, Attendance, Late Submission, and Switching Exam Policy:**

**Professionalism:** If a student fails to demonstrate professional behavior during the course, a meeting with the course director may be required. Unprofessional behavior includes, but is not limited to, a breach in integrity, excessive tardiness and absenteeism, cheating, lying, and collusion, disrespect to peers, staff, faculty and insubordination. Unprofessional conduct may also be subject to the College of Dentistry Due Process Document found at: https://exchange.bcd.tamhsc.edu/intranet/StudentResources/
Learning Materials:

<table>
<thead>
<tr>
<th>Required Resources</th>
<th>Dental Public Health &amp; Research (4th Ed.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author: Christine Nathe</td>
<td>Published: 2017</td>
</tr>
<tr>
<td>Published: 2017</td>
<td>ISBN: 978-0-13425-546-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Introduction to Research in the Health Sciences (6th Ed.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors: Stephen Polgar and Shane Thomas</td>
</tr>
<tr>
<td>Published: 2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Resources</th>
<th>Evidence-Based Dentistry for the Dental Hygienist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edited by Julie Frantsve-Hawley</td>
<td>Published: 2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Methods for Oral Health Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors: Michele Darby and Denise Bowen</td>
</tr>
<tr>
<td>Published: 1986</td>
</tr>
<tr>
<td>ISBN: 0-8016-1207-1</td>
</tr>
</tbody>
</table>

Reserved as reference material in school library

Remediation Policy:  
If the student is eligible, remediation will occur in the subsequent spring semester. Remediation will be specifically directed at the deficiency that resulted in the failing grade.

Attendance and Make-up Policy:  
Attend all class sessions as required by Texas A&M College of Dentistry. Absences must be reported to Pam Hines at 214-828-8340 and must be received prior to the beginning of class. If a student is absent from a class, it will be their responsibility to see the Course Director for information missed during his/her absence. Any absences due to illness may require a note from your doctor. The determination of excused and other unexcused absences will be determined on an individual basis by the course director and the director of student affairs. For University excused absences, refer to Student Rule 7 for details ([http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07)). For an excused absence, a missed exam must be made up within one week of the excused absence.

Late Assignments:  
Submission of assignments are due as stated by the Course Director. Assignments submitted after the stated due date will be considered late and students will be penalized five points per calendar day the assignment is submitted late (this includes weekends).

Switching Exams:  
Due to the sensitive nature of the course, (i.e. timing, scheduling, etc.), exam dates cannot be switched. Please refer to the institutional ‘Class Voting Rules’ document for further details.

Laboratory/Clinic Policies and Procedures:  
Not applicable.
Special Accommodation for Persons with Disabilities:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Dr. Paul Dechow, Associate Dean for Academic Affairs, Room 514, or call 214-828-8208 for additional information.

Academic Integrity Statement and Policy:

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the honor Code, to accept responsibility, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. See http://aggiehonor.tamu.edu for additional details regarding the university honor code.
## DDHS 4715: Research Methods Tentative Course Timeline

Refer to Appendix J for Detailed Chronology on Assignment Deadlines

<table>
<thead>
<tr>
<th>Date</th>
<th>Title/Topic</th>
<th>Expectations</th>
<th>Instructor</th>
</tr>
</thead>
</table>
| 8/15/17   | Course Overview:                                                           | Pre-Reading Materials: Frantsve (Chapter 1)  
- Nathe (Chapter 14)  
- Polgar (Section 1)  
ACTION ITEMS:  
- Identify Research Partners  
- Identify Possible Topics  
UPCOMING DEADLINES:  
- Meet with Dr. Kabani to Finalize Topic by 5pm on 9/1 and Submit via Email by 11:59pm on 9/1.                                                                 | Dr. Kabani              |
|           | • Syllabus, Rubrics, & Expectations  
• ADHA Research Agenda  
Introduction to Research:  
• Evidence-Based Decision Making  
• Scientific Method & Research Process  
• Research Question & Null Hypothesis  
• PICO and FINER Criterions                                                                 |                                                                        |                         |
| 8/22/17   | Library Resources Workshop:                                                | Pre-Reading Materials:  
- Darby (Chapter 2)  
- Frantsve (Chapters 3-4)  
- AMA Manual  
ACTION ITEMS:  
- Develop Lit. Review Matrix                                                                 | Dr. Kabani              |
|           | • Institutional Research Databases  
• Detecting Source Credibility/Timeliness  
• Generalized Citation Style Lab  
• Universal Code: A Researcher’s Oath                                                                 |                                                                        | Joyce McFadden Librarian |
| 8/29/17   | Research Design & Levels of Evidence:                                      | Pre-Reading Materials:  
- Darby (Chapters 4 & 6)  
- Frantsve (Chapter 2)  
- Nathe (Chapter 15)  
- Polgar (Sections 2-3)  
UPCOMING DEADLINES:  
- Meet with Dr. Kabani to Finalize Topic by 5pm on 9/1 and Submit via Email by 11:59pm on 9/1.                                                                 | Dr. Kabani              |
|           | • Primary vs. Secondary Research  
• Qualitative vs. Quantitative Approaches  
• Diverse Research Designs & Studies  
• DV, IV, and Extraneous Variables  
Legal & Ethical Concerns in Research:  
• Informed Consent & Confidentiality  
• Human Experimentation Regulations  
• Institutional Review Board                                                                 |                                                                        | Dr. Schneiderman COD IRB Chair |
| 9/5/17    | Data Acquisition & Measurement Scales:                                     | Pre-Reading Materials:  
- Darby (Chapters 5 & 7-8)  
- Frantsve (Chapter 7)  
- Nathe (Chapters 16 & 18)  
- Polgar (Sections 2-4)  
ACTION ITEMS:  
- Continue Lit. Review Matrix  
- Develop Narrative Outline  
UPCOMING DEADLINES:  
- Meet with Dr. Kabani to Obtain Feedback on Narrative Outline by 5pm on 9/29.                                                                 | Dr. Kabani              |
|           | • Sampling Techniques  
• Validity & Reliability  
• Sensitivity & Specificity  
TAMU Writing Center Workshop:  
• Overview of Undergraduate Services  
• Scientific & Technical Writing  
Note: Research Narrative Draft NEEDS to be Reviewed by TAMU Writing Consultants by 10/5/2017.                                                                 |                                                                        | TAMU Writing Center       |
<table>
<thead>
<tr>
<th>Date</th>
<th>Exam 1 (ICL – Computer Lab)</th>
<th>Exam 2 (ICL – Computer Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/12/17</td>
<td>Modules Covered: Introduction to Research, Library Resources Workshop, Research Design &amp; Levels of Evidence, Legal &amp; Ethical Concerns in Research, and Data Acquisition &amp; Measurement Scales</td>
<td>Modules Covered: Introduction to Biostatistics, Dissemination &amp; Implementation, and Evaluating Published Research</td>
</tr>
</tbody>
</table>
| 9/19/17    | **Introduction to Biostatistics:**  
  - Theories, Principles, & Fallacies  
  - Descriptive & Inferential Statistics  
  - Selection & Use of Statistical Tests  
  - Statistical & Clinical Significance  
  **Pre-Reading Materials:**  
  - Darby (Chapter 9)  
  - Frantsve (Chapter 7)  
  - Nathe (Chapter 17)  
  - Polgar (Sections 5-6)  
  **ACTION ITEMS:**  
  - Continue Lit. Review Matrix  
  - Develop Narrative Draft  
  **UPCOMING DEADLINES:**  
  - Meet with TAMU Writing Consultant for Feedback on Narrative Draft by 10/5. | **TAMU Writing Center Workshop:**  
  - Developing Research Posters  
  **Independent Study:**  
  - Meet with Faculty Mentor to Discuss Progress on Lit. Review Matrix & Outline of Research Narrative |
| 9/26/17    | **Dissemination & Implementation:**  
  - Presenting and Publishing Research  
  - Professional Dress Code Guidelines  
  - Scientific and Technical Writing  
  **Evaluating Published Research:**  
  - The Art & Science of Criticism  
  - Elements of Critiquing Research  
  - Journal Club Participation  
  **Pre-Reading Materials:**  
  - Darby (Chapters 10-11)  
  - Frantsve (Chapter 8-9)  
  - Nathe (Chapter 20)  
  - Polgar (Section 7)  
  **ACTION ITEMS:**  
  - Continue Lit. Review Matrix  
  - Continue Narrative Draft | Dr. Kabani |
| 10/3/17    | **TAMU Writing Center Workshop:**  
  - Developing Research Posters  
  **Independent Study:**  
  - Meet with Faculty Mentor to Discuss Progress on Lit. Review Matrix & Outline of Research Narrative  
  **ACTION ITEMS:**  
  - Continue Lit. Review Matrix  
  - Develop Title & Objectives  
  - Identify Tables & Figures  
  **UPCOMING DEADLINES:**  
  - Meet with Mentor to Discuss Lit. Review & Narrative Outline by 5pm on 10/13  
  - Upload Lit. Review Matrix (5-8 Sources) & Drafted Narrative on BB by 11:59pm on 10/15  
  **Dr. Kabani**  
  **TAMU Writing Center** |
| Week of 10/17/17 | Independent Study | ACTION ITEMS:  
- Start Sketching Poster Design  
- Continue Lit. Review Matrix  
- Continue Title & Objectives  
- Continue Tables & Figures |
|------------------|--------------------|---------------------------------------------------------------|
| Week of 10/24/17 | Independent Study | ACTION ITEMS:  
- Continue Sketching Poster Design  
- Continue Lit. Review Matrix  
- Continue Tables & Figures  
UPCOMING DEADLINES:  
- Email Final Title & Objectives to Dr. Kabani by 11:59pm on 10/29 |
| Week of 10/31/17 | Independent Study | ACTION ITEMS:  
- Continue Lit. Review Matrix  
- Continue Sketching Poster Design  
UPCOMING DEADLINES:  
- Email Tables/Figures to Dr. K by 11:59pm on 11/5 |
| Week of 11/7/17  | Independent Study | ACTION ITEMS:  
- Refine Research Narrative Draft  
- Continue Lit. Review Matrix  
- Continue Sketching Poster Design  
UPCOMING DEADLINES:  
- Meet with Dr. Kabani to Obtain Feedback on Research Narrative Draft by 5pm on 11/10 |
| Week of 11/14/17 | Independent Study | ACTION ITEMS:  
- Continue Research Narrative Draft  
- Continue Lit. Review Matrix  
UPCOMING DEADLINES:  
- Email Poster Draft to Dr. K by 11:59pm on 11/19  
- Feedback Distributed Over Week of 11/21 |
| Week of 11/21/17 | FALL SEMESTER RECESS |
| Week of 11/28/17 | Independent Study:  
• Meet with **Faculty Mentor** to Discuss Progress on Research Narrative Draft and Refine Informative Poster Design | **ACTION ITEMS:**  
- Refine Poster Design  
- Continue Research Narrative Draft  
- Continue Lit. Review Matrix  

**UPCOMING DEADLINES:**  
- Meet with Mentor to Discuss Narrative Draft and Refine Poster by 5pm on 12/1  
- Upload Group Self-Evaluation Rubric on BB by 11:59pm on 12/3  
- Email Poster to Mentor (CC Dr. K) for 1st Approval by 11:59pm on 12/3 *(before sending to Media)* |
| --- | --- | --- |
| Week of 12/5/17 | Independent Study | **ACTION ITEMS:**  
- After 1st Approval, Email ALL Poster Information to Media Resources for Proofing *(i.e. text, designs)*  

**UPCOMING DEADLINES:**  
- Upload Journal Club Article and Critique on BB by 11:59pm on 12/3  
- Email Poster Proof to Mentor (CC Dr. Kabani) for 2nd Approval by 11:59pm on 12/15  
- Email Refined Research Narrative Draft to Mentor (CC Dr. Kabani) by 11:59pm on 12/15 |
DDHS 4715: Research Methods

Memorandum of Understanding

(Please initial each line)

I have read and understand the course syllabus and my responsibilities to successfully complete DDHS 4715: Research Methods.

I have read and understand the institutional policies on academic honesty and have pledged accordingly to the Aggie Honor Code.

I have read and understand the course syllabus provides a tentative timeline and that the course director has the ability to adapt/modify the syllabus, as needed. The course director will provide written notice to all students in as advance as possible for any changes that may arise.

Print Student Name: ____________________________________________

Student Signature: ____________________________________________

Date Signed: ____________________________________________

Research Course Director Use Only:

Received by: ____________________________________________

Date Received: ____________________________________________