Course Number: RADS 4913X12  
Course Title: Applied Research  
Faculty: Jammie T. Wilbanks, MSRS, RT(R)  
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EM: jammie.wilbanks@mwsu.edu  

Prerequisites: RADS 3503 Research (must be successfully completed BEFORE this course can be taken)  

Course Overview: This is a capstone course involving directed research by reviewing previously published articles, culminating in a substantive paper related to Radiologic Sciences. The student must continue with the topic/research question presented during RADS 3503 with the approval of the RADS 4913 instructor.  

Course Objectives: Upon completion of this course, a student will be able to:  
- Apply appropriate research methods.  
- Formulate an appropriate research question.  
- Compose a publication quality substantive research paper that reviews previously published articles.  
- Format this research paper which is a literature review in appropriate APA style (no original research is allowed).  

Textbook:  
Note: Be sure to get the correct version of the Manual. Check the copyright page to be sure it says “2nd printing, October 2009.”
Teaching Strategies:
Independent research and directed student paper

Attendance:
This is an online course and there are no mandatory sessions. However, the student should be vigilant in logging onto WebCT. Regular checks will insure that messages from the instructor are received in a timely manner. This course is on a schedule that will be strictly adhered to; See the Course Schedule for specific information about activities and due dates.

The instructor will be available to meet face-to-face with any interested students on August 24 at 7pm. This meeting is optional and must be confirmed by email ahead of time with the instructor.

Special Needs:
In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable adjustments in its policies, practices, services, and facilities to ensure equal opportunity for qualified persons with disabilities to participate in all educational programs and activities.

The Office of Disability Support Services (DSS) provides information and assistance, arranges accommodations, and serves as a liaison for students, instructors, and staff. The DSS has assistance devices such as books on tape, recorders, and adaptive software which can be loaned to qualified individuals. A student/employee who seeks accommodations on the basis of disability must register with the Office of Disability Support Services in the Clark Student Center Room 168 or call 940-397-4140 for further information. Documentation of disability from a competent professional is required.

Individuals with grievances related to discrimination or lack of accommodation on the basis of a disability are encouraged to resolve the problem directly with the area involved. If the matter remains unresolved, advice and/or assistance will be provided by the Office of Disability Services for resolution. The grievance procedure may be found in the Student Handbook and Activities Calendar.

The director of the Counseling Center services as the ADA Coordinator may be contacted at (940) 397-4618, TDD (940) 397-4515, or 3410 Taft Blvd., Clark Student Center Room 108.

Evaluation:

<table>
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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Research Question &amp; Outline</td>
<td>5%</td>
</tr>
<tr>
<td>Title Page</td>
<td>5%</td>
</tr>
<tr>
<td>Reference List</td>
<td>20%</td>
</tr>
<tr>
<td>Body of Paper</td>
<td>35%</td>
</tr>
<tr>
<td>Abstract</td>
<td>5%</td>
</tr>
<tr>
<td>Final Paper</td>
<td>30%</td>
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Students are required to submit all assignments in the appropriate assignment drop box in Blackboard (WebCT). Do not email or fax assignments unless told specifically to do so by your instructor. Do not wait until the last minute to submit in case you have technical difficulties. If you have difficulties submitting any assignments, contact your instructor immediately so that problems can be resolved by the deadline. Technical difficulties need to be addressed through the WebCT help link. Assignments must be submitted on time; **late submission will result in a 10% reduction in points.**
Grade Scale:

A = 100 - 90
B = 89 - 80
C = 79 - 70
D = 69 – 60
F = 59 and below

The last opportunity to drop this course with a grade of "W" is 4:00pm October 18, 2010. Refer to the Undergraduate Bulletin for details about receiving a grade of “Incomplete” in a course. In an emergency or extenuating circumstance, a student may request a grade of “Incomplete” in a course before grades are submitted. If the instructor grants the “Incomplete,” the student has until thirty (30) days after the beginning of the next long semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of “Incomplete” will automatically convert into a grade of “F.”

Administrative Process:
Unresolved issues related to this course should be first addressed between the student and the course instructor. If there is no resolution, students must follow this sequence:
- Department Chair – Dr. Donna Wright (940-397-4615)
- College Dean – Dr. Susan Sportsman (940-397-4594)
- Dean of Students – Dail Neely (940-397-6273)

Academic Conduct:
RADS 4913 adheres to the MSU Code of Conduct. In particular, academic dishonesty, however small, creates a breach in academic integrity. A student’s participation in this course comes with the expectation that his or her work will be completed in full observance of the MSU Code of Student Conduct. A student should consult the current Student Handbook for answers to any questions about the code.

Many components of RADS 4913 are designed to be highly interactive with students helping each other learn. Students are encouraged to take full advantage of many resources available including online WebCT course resources, Internet sites, other textbooks and journals, faculty, and peers when answering objectives. This interactive collegial learning environment is conducive for life-long learning.

All components of RADS 4913 are designed to represent the efforts of each student INDIVIDUALLY and are NOT to be shared or copied (plagiarized) from other sources. When students submit their efforts for grading, they are attesting they abided by this rule.

Cheating includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) the acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. Students may NOT submit papers and assignments that they have previously submitted for this or other courses. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. Papers and other assignments may be submitted to an external agency for verification of originality and authenticity.
Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class. Whenever a student is unsure of whether a particular situation will be interpreted as academic dishonesty, he/she should ask the instructor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

**PLEASE NOTE**

*By enrolling in this course, the student expressly grants MSU a “limited right” in all intellectual property created by the student for the purpose of this course. The “limited right” shall include but shall not be limited to the right to reproduce the student’s work product in order to verify originality and authenticity, and for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity, and to detect for plagiarism.*

**Course Communication:**
Contact information for the instructor is listed at the beginning of this syllabus. Email is the preferred mode of communication. **Students must use their standardized MSU Student email for correspondence about this course.** Students are responsible for updating their WebWorld information with this email address. Students must indicate the preferred email in WebWorld as well.

Faculty members will not be responsible for keeping up with other email addresses for students.

The instructor will respond or at least acknowledge email messages from students within a maximum of five (5) business days when MSU is in session. Beyond standard university holidays and breaks, the instructor will notify students of any extended periods of time when email contact is not practical (professional meetings, etc)

When emailing the instructor, you must use the following subject header:

4913_your last name_topic of message

Example: 4913_Smith_Quiz 4

The instructor will post announcements on Blackboard. It is imperative that students log on weekly so that important announcements are not missed.

When there is a need to contact students, the instructor will use the students’ “students.mwsu.edu” email account. The instructor is not responsible for sending emails to any other email account.

**CLASS ACTIVITIES & ASSIGNMENTS**
This course is divided into six (6) assignments and all assignments must adhere to the following requirements:

- IBM compatible format (not MAC)
- Word 97 or newer version (not Microsoft Works or WordPerfect)
- Times New Roman, 12 point font ONLY
- 1” margins on all sides
- Double-spaced

The assignments should be written using standard technical writing skills. This includes appropriate spelling, grammar, sentence structure, transitions, text flow, currency of knowledge, and scope of research.
Assignment 1 – Research Question and Outline (5%)
The student must continue with the topic/research question presented during RADS 3503 and the topic must be approved by the instructor.

This course only allows topics related to Radiologic Sciences (which emphasize the role of technologists), not papers related to clinical radiology (which emphasize the role of radiologists). For example, “Factors Contributing to Job Satisfaction for MRI Technologists” is acceptable, but “Treatment of Obstructive Bowel Syndrome” is not acceptable. Also for example, “Positions for Radiographic Demonstration of the Trauma Knee” is acceptable, but “Diagnosis of Cerebral Hemorrhage” is not acceptable. Topics cannot deal with subjects that are outside the scope of practice of the radiographer.

The outline should be based on published literature. Students will not develop their own surveys or conduct experiments to write this paper.

Students must complete the Research Question Approval Form, include a detailed outline of the paper, and include the reference list created in RADS 3503. The assignment must be submitted to the Assignment I Dropbox in Blackboard by the due date.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric, Proposal Form, Formulating a Research Question document, & Sample Outline.

Assignment 2 – Title Page (5%)
Title page – pages 23 and 24 of the 6th edition of the APA Manual describes the components of the title page. Use the sample title page available under Course Materials on the course homepage because it includes additional information not included on the APA version. It helps distinguish assignments submitted in different classes.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric & Sample Title Page.

Assignment 3 – Reference List (20%)
Refer to Chapters 6 and 7 in the APA Manual for an explanation on how to construct a reference list. Also, refer back to RADS 3503; you should have your graded reference list from that class. A minimum of eight (8) references is required.

NOTE ON REFERENCES: References should be from a variety of sources with the majority of references being from peer review journals or other scholarly works. Peer review journals use an editorial review board that evaluates the article for accuracy. Publications or magazines like RT Image, Advance, Decisions in Imaging Economics, and Applied Radiology are not peer-reviewed. Journals such as Radiologic Technology, Radiologic Science & Education, and Radiology Management are peer-reviewed. You should be able to look at the inside cover of a journal or on a web site to see if the journal has a review board. Most likely if you can not find anything about a review board then the journal is not peer reviewed. The journal homepage should also indicate if the journal is peer-reviewed.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric.
Assignment 4 – Body (35%)
The body of this paper is to include the following sections: introduction, methods, discussion, conclusion, and suggestions for future research. All sections except the Introduction should have a header – see APA Manual page 62 Section 3.03. This part of the paper must be no less than 5 pages and no more than 7 full length pages (Times New Roman, 12 pt font). Students should ALSO submit the corrected and revised Reference List from Assignment 3 so the reference list can be checked against the in-text citations.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric, Sample Paper, Writing a Methods Section, Writing a Literature Review article, & How to Read Literature article.

An expanded explanation of each component follows.

Introduction (includes background, purpose, research question, hypothesis) - pp. 27, 26 and 63 (APA Manual). This is where you develop the reason for the problem. Note: The word Introduction is not used as a header. The first section of the paper is assumed to be the Introduction section.

Methods (how references were found and what resources were used). The APA Manual describes methodology for original research. Because no original research is allowed in this course, use the methods section to describe how information was obtained.

Example: Searches were conducted using the following key words: knee injuries, radiology, radiography, infection control, (etc. to include all the appropriate search terms). Academic First Search, ERIC, EbscoHost were the primary databases used and were accessed through the Midwestern State University Library.

Discussion - pp. 35-36 (APA Manual). Compare the literature with the approved research question. This is where all the literature is pulled together so that the reader doesn’t have to read each separate source. The writer’s job for this section is to enlighten the reader by synthesizing the literature and reporting on it. For example one can formulate thoughts based on the literature, but a personal opinion is not appropriate in a research literature review. The writer is reporting on what was found; therefore, it must be supported with reference citations. Do not use personal pronouns such as “I found this…” or “we see this …”

For example if this were written:

Firms must take the initiative in retaining gifted and competent employees to effectively deal with this expected predicament. Proactive exploring is the catalyst for discovering various methods that could improve the retention rate of radiologic technologists and provide direction for organizations looking to implement and maintain a successful employee retention program.

While this may be true, it must be backed by research so here is how it might have been rewritten:

During this literature review, a common theme was evident among many of the authors (Ackerman, 2000; Bated, 2003; Devlin, 2000; Myers, 2006; & Zuckerman, 2007) that organizations must take the initiative in retaining gifted and competent employees. It appears that proactive exploring is the catalyst for discovering various methods that could improve the retention rate of radiologic technologists and provide direction for organizations looking to implement and maintain a successful employee retention program. For example, Veale’ (2008) said, “Passive attitudes towards employee retention are no longer effective. Healthcare organizations are bleeding to death by ignoring the loss of talent” (p. 45).
It seems then that the answer to the question of how to keep talent is to contemplate, renovate, innovate, and create new best practices to achieve institutional goals and thereby add to the existing body of knowledge on radiographer retention. Watts (2005) and Johnston (2007) support these notions by strongly encouraging healthcare organizations to work with employees instead of against them and to actively engage employees in the development of best practices for retention.

Conclusion – See the sample paper under Course Materials on the course home page. This is where you remind readers of the purpose, what was discovered, and if the findings were in line with the research question. Remember, this section should be no longer than 1 page.

Suggestions for future research - Explain where the literature was lacking and possible future research studies.

Appendices (if needed) - Place any graphics, tables, etc. after the references.

Assignment 5 – Abstract (5%)
See page 25, 26 and 229 in the APA Manual. The abstract should be no more than 120 words. Explain what the focus of the paper is and a little bit about the literature. Sell your paper here. Write something that is going to make people want to read this. The abstract is essentially a snapshot of the entire paper; it is what hooks people and convinces them to continue reading. Write the abstract after you complete the paper.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric & Writing an Abstract.

Assignment 6 – Final Paper (30%)
This research paper is to be a substantial manuscript (5-7 full length pages for the body). The length of the body of the paper is in addition to the title page, abstract, appendices, and reference list. The paper MUST reflect baccalaureate level effort and MUST incorporate the suggestions for revision provided by the instructor for assignments #1 - #5. It should demonstrate the student's ability to gather and discriminate pertinent resources, synthesize information from a variety of sources, apply new information to a topic, and correctly use the APA Reference Style.

The following documents are available for guidance, and are located in this assignment dropbox: Grade Rubric.
## Fall 2010 COURSE DUE DATES

<table>
<thead>
<tr>
<th>Activity</th>
<th>Due Date</th>
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<tbody>
<tr>
<td><strong>Research Question Proposal &amp; Content Outline</strong></td>
<td>September 3</td>
</tr>
<tr>
<td>Notification of Instructor Approval</td>
<td>September 10</td>
</tr>
<tr>
<td>Title Page due</td>
<td>September 17</td>
</tr>
<tr>
<td>Title Page graded by</td>
<td>September 24</td>
</tr>
<tr>
<td>Reference List due</td>
<td>September 24</td>
</tr>
<tr>
<td>Reference List graded by</td>
<td>October 8</td>
</tr>
<tr>
<td>Completion of BS Program Survey</td>
<td>October 8</td>
</tr>
<tr>
<td>Body of Paper due</td>
<td>October 15</td>
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<tr>
<td>Body of Paper graded by</td>
<td>October 29</td>
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<tr>
<td>Last Day to Drop with a “W”, 4 pm CST</td>
<td>October 18</td>
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<tr>
<td>Abstract due</td>
<td>November 5</td>
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<tr>
<td>Abstract graded by</td>
<td>November 12</td>
</tr>
<tr>
<td>Final Paper due</td>
<td>November 19</td>
</tr>
<tr>
<td>Final Paper graded by</td>
<td>December 8</td>
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*Please note that all activities are due by 11:00pm CST on the due date.*