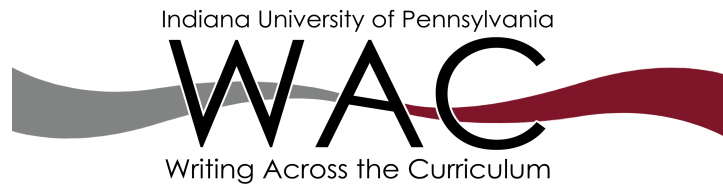


Last Updated April 5, 2023



DEPARTMENT OF NURSING AND ALLIED HEALTH PROFESSIONS

Department Writing Plan

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Summary

In creating their writing-enriched curriculum, Dr. Lei Hao served as a liaison between WAC and Allied Health. Lei Hao used a template borrowed from the University of Minnesota¹ and adapted by Siegel Finer to thoroughly investigate where and how writing was already being taught in the Allied Health curriculum, and where and how writing could be added to the curriculum, in order to draft the writing plan for their department instructors.

Lei Hao and Siegel Finer met regularly throughout the 2022-2023 academic year. Siegel Finer offered Lei Hao access to an online workshop about Writing Across the Curriculum. Lei Hao reviewed all materials on D2L. Technology transforms our society and education. For example, as the development of artificial intelligence, student may use ChatGPT for their writing assignments. To tackle this challenge, Lei Hao attended a faculty workshop Creating Effective Writing Assignments: Plagiarism-Proofing in the Modern Age hosted by Siegel Finer in March 2023.

Lei Hao met with his colleagues to discuss course outcomes in order to complete the outcomes map below; they also developed a statement of “Department Commitment to Writing” to include on syllabi for courses that will be a part of the writing-enriched curriculum as appropriate, also below.

At a meeting on April 5, 2023, the Department of Nursing and Allied Health Profession faculty voted to support the Allied Health Writing Plan as described below in addition to the WAC Director’s recommendations for continuing program facilitation on page 21 of this document.

¹ University of Minnesota Writing Enriched Curriculum. 2013. <http://wec.umn.edu/Writingplans.html>

Allied Health (Medical Imaging and Medical Technology) Department Writing Plan Rollout Fall 2023

Professional and Academic Genres in Allied Health

Allied health encompasses a broad group of health professionals who use scientific principles and evidence-based practice for the diagnosis, evaluation and treatment of acute and chronic diseases; promote disease prevention and wellness for optimum health, and apply administration and management skills to support health care systems in a variety of settings, such as hospitals, outpatient clinic, clinical labs, and long term care facilities. Allied health professionals build bridges between clinicians, social care workers, and communities, and promote the health of groups with intersecting vulnerabilities. In addition, Allied health professionals have a crucial role in addressing health inequalities as they are an essential component of health and care services, working in multiple settings beyond health, including social care, education, independent and voluntary sectors (Gkiouleka et al., 2022).

Allied health students at IUP are introduced to theories, skills, and qualities throughout the curriculum that they will need to possess when they enter allied health profession. Verbal and written communication is strongly emphasized throughout the curriculum. Examples include patient assessments, care plans, narrative notes, skill performances, documentation, use of an electronic health record, proper use of medical terminology and communicating with other healthcare professionals. Additionally, allied health students need to be able to write research papers, critique literature, present oral/poster presentations, so that when they enter the field, they have strong communication skills, particularly as they write to audiences including patients and healthcare providers.

The IUP Allied Health Program is strongly committed to helping students to improve their writing skills in order to be able to communicate as competent health care professionals.

Student Writing Skills and Abilities

Students in allied health need a variety of writing skills and abilities upon completion of their degree in order to write in the above genres. Professionals in allied health must have strong communication skills as they interact, speak and write to audiences that include patients, co-workers, physicians and other medical practitioners.

Students in allied Health need a variety of writing skills and abilities upon completion of their degree. These include abilities to:

- Use electronic health records (EHRs) to document patient care and procedures, and to communicate with other healthcare professionals involved in a patient's care.

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- Explains the examination and associated procedures to the patient and responds to patient questions and concerns.
- Use correct medical terminology, including correct abbreviations and acronyms
- Construct a written critique of literature in the field
- Provides an oral or written summary of findings to the supervising physician.
- Provides timely, accurate, concise, and complete documentation

The IUP allied health program is committed to introducing, emphasizing, and reinforcing these skills and abilities throughout the curriculum, and does so through the purposeful mapping of writing assignments and activities that follows at the end of this document.

Integration of Writing into Undergraduate Curriculum

Department faculty have participated in professional development training in writing-to-learn pedagogy² through writing workshops with the WAC director, participation in the end-of-year Liberal Studies writing workshop, and in full department faculty meetings that the WAC director has visited.

Currently, the Medical Imaging program curriculum has one sophomore-level course that is designated as writing intensive in addition to ENGL 202. Along with this designated writing intensive course, all junior and senior clinical courses have various writing assignments incorporated to meet course objectives. Medical Imaging students are consistently taught the importance of including clear, factual documentation in the Electronic Health Record (EHR). The EHR is considered a legal document, and if patient care is not appropriately documented, the care is considered incomplete. Verbal communication, especially the use of therapeutic communication with patients, is essential. Students also need to learn to communicate effectively with other healthcare professionals.

Writing instruction in Medical Imaging is integrated in these two ways:

Writing-to-learn:

Writing-to-learn pedagogy is used to accomplish two simultaneous goals: increase writing abilities and improve learning of course content through writing as an additional mode of learning. In the Department of Nursing and Allied Health Professions, WTL techniques include personal reflections on assignments, one-minute papers related to current issues in the field, progress reports and other self-assessments, concept mapping, journaling (traditional and double/triple-entry), summaries, focused freewriting, micro-themes, and reading responses. These activities are found throughout each level of the curriculum (see

² "What is Writing to Learn?" *Writing Across the Curriculum Clearinghouse*. Colorado State University. 2015. <http://wac.colostate.edu/intro/pop2d.cfm>

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Course Outcomes Map below) and in almost every course in order to emphasize to students that writing is a critical part of their education in the medical imaging field, and in order to best help them learn course content.

Direct instruction in disciplinary genres:

Throughout the curriculum, students are introduced to concepts, practice, and reinforcement of core disciplinary genres: genres in which they will need fluency when they enter career fields as nuclear medicine technologists or sonographers. These include medical imaging protocols, technical report, imaging report, patient education materials, research papers, grant proposals, oral/poster presentations, and case studies. Most of these core disciplinary projects are taught in various steps, such as research papers, which include process assignments like annotated bibliographies and reading responses that build up to the submission of the final paper. Faculty in the department recognize that good writing usually happens according to a recursive process, so students are given opportunities to submit rough drafts, receive peer and instructor feedback, and revise

Students will continue to take English 202 as required by Liberal Studies. The allied health program will reinforce and extend students writing skills in discipline-based, information literacy practices.

Communicating Writing Expectations to Students

The department communicates writing expectations to undergraduate students through their handbook that all majors receive, course syllabi, tentative course outlines, and grading rubrics. Department syllabi will contain **the Department Commitment to Writing Statement** as relevant, and many contain a paragraph of information for each written assignment. In addition, faculty members are encouraged to discuss writing expectations in class and provide feedback on student writing.

Syllabus Statement

The Department of Nursing and Allied Health Professions is committed to developing student writing throughout the curriculum. Communication is identified as an important student outcome, therefore, in this class, you will complete writing activities throughout the course designed to improve your communication skills in the respiratory profession. Examples include but are not limited to care plans, case studies, note taking summaries, worksheets, Certified Nuclear Medicine Technologist Certification (CNMT) style questions, ARDMS examinations style questions, etc.

Implementation and Assessment of Department Writing Plan

The WAC Director recommends the following action items for continuing program facilitation:

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- Elect at least one faculty member to continue to be the WAC/Allied Health liaison (this should count as department Service)
- Provide all newly hired faculty a copy of the DWP, and recommend attendance at least two WAC workshops or the May 2-day writing workshop for Liberal Studies faculty
- All faculty should add “Department Commitment to Writing” statement to syllabus as appropriate
- Through faculty development seminars with WAC director, workshop attendance, and writing-enriched curriculum, attempt to move assessment results to target 75% and maintain results in other areas
- Add areas for the teaching and assessment of writing as goals on department and faculty five-year review documents
- Continue to update the writing outcomes curriculum map as courses are added, removed, and revised in the Allied Health curriculum (and communicate these changes to the WAC Director)

Writing Outcomes Curriculum Map

The Writing Outcomes Curriculum Map demonstrates:

- Conscious effort on the part of department faculty at placing core disciplinary genres at appropriate levels of the curriculum, scaffolding and reinforcing the writing skills necessary for students to succeed in writing those genres (for example, students write responses to critical thinking questions on worksheets or on topics presented in lecture).
- Thoughtful integration of writing-to-learn activities in most courses in the curriculum (for example, one-minute paper taught in IMAG 480).
- Balanced measures for assessing writing as process and product, that is, writing is graded for demonstrating mastery of course content as well as improvement of writing skills over time (for example, reflective paper taught in IMAG 101).
- Courses for Medical Imaging major since core courses for Medical Technology are covered by the writing plans of Biology and Chemistry programs.

Course	Expected Writing Outcomes (These might be explicitly listed in the course objectives, or implicit through the assignments)	Writing to Learn Activities (These are ungraded daily, low-stakes, short activities for learning/processing content)	Professional or Academic Genres (Major assignments that demonstrate understanding of course content; academic genres are those assigned only in school, such as essays or reading responses; professional genres are those specific to a discipline or career field)
IMAG 101	Write a reflective paper	Career investigation Communicating with group members Summarize group discussion in class	Write a reflective paper/assay about major health challenges in the U.S.

IMAG 484	Demonstrate oral, written, and electronic communication skills in the clinical setting to optimize health care outcomes	In-class activities, such as one-minute paper, worksheets, and case study.	Develop a patient education brochure/handout Cas studies Medial emergency presentation
NMED 406	Formulate the appropriate patient values when dealing with different systems of length, volume, temperature, radiation exposure, and radiation activity in nuclear medicine.	Problem-solving reflections: After students have completed a challenging math problem or set of problems, have them reflect on their problem-solving strategies in writing.	Justify a process or solution Appraise the results of clinical procedure calculations to hypothesize likely patient diagnoses
NMED 416	Demonstrate appropriate use of nuclear terminology and notation Develop an understanding of basic physics principles related to the atom, as applicable to the field of nuclear medicine technology	Discovery/independent research Case study	Group projects involving in writing
NMED 425	Understand and effectively communicate information concerning the effects of ionizing radiation on the human body	Library and Internet Research Video/Audio Review and Critique	Discussion board Written review of literature Research project
NMED	State the general function of each of	Practice/drill	journal articles reviews

435	<p>the following as it relates to nuclear medicine: NRC, OSHA, FDA, EPA, DOT</p> <p>Define the term radiation exposure</p> <p>State the appropriate sections of the CFR that are applicable to nuclear medicine</p>	<p>Students write responses to critical thinking questions on worksheets or on topics presented in lecture.</p>	case studies
<p>NMED 445</p>	<p>Explain the use of each non-imaging radiopharmaceutical based on human physiology, radiochemistry, and biochemistry principles.</p> <p>Learn to communicate effectively with a diverse patient and professional population.</p>	<p>In-class case study/analysis/critical thinking exercises</p>	<p>Diversity Essay</p> <p>Labs</p>
<p>NMED 455</p>	<p>Describe the rationale and technical aspects for each nuclear medicine imaging procedure reviewed.</p> <p>Explain the rationale for use of each radiopharmaceutical based on human physiology, radiochemistry, and</p>	<p>Students write responses to critical thinking questions on worksheets or on topics presented in lecture.</p>	<p>Board discussion</p> <p>Case studies</p>

	biochemistry principles.		
NMED 462	Describe the rationale, technical procedure, and radiation safety needed for each radiation therapy procedure reviewed.	In-class case study/analysis/critical thinking exercises	Case analysis Written review of literature
NMED 465	Describe radiopharmaceutical and imaging terminology relevant to the field of nuclear medicine Discuss the various methods of radioisotope production	Students learn to communicate scientific results in the form of written questions.	Case studies Professional Evaluation
NMED 472	Describe the role of various gas detectors used in nuclear medicine, the procedures involved in their quality control, and the analysis and interpretation of instrument test results.	Reflective writing on imaging techniques: After introducing a new imaging technique, have students write a reflection on their understanding of the technique.	Proposal writing: Have students write a proposal for a new molecular imaging research project.
NMED 475	Describe various SPECT and SPECT/CT quality control procedures and analyze/interpret test results.	Research summaries: Have students research a particular topic in molecular imaging instrumentation, such as a new imaging modality or a recent technological advancement.	Patient Case Study: Have students analyze a patient case study where SPECT gamma camera imaging was used for diagnosis or monitoring. Ask them to write a report on the patient's condition, the imaging results, and the

			clinical implications of those results.
NMED 477	Describe the components of a basic PET unit and describe the process by which ionizing radiation interactions are detected and processed	Ask students to research and write about the different image reconstruction techniques used in PET.	Clinical Applications: Provide students with a list of clinical applications of PET imaging, such as cancer imaging, neuroimaging, and cardiovascular imaging. Have them write a report on the principles and methods of PET imaging used in each application, and discuss the potential clinical implications of the imaging results.
NMED 485	During clinical training, the student will be assessed through reflective writing on patient care via case studies and analysis of the student's progress in monthly self-evaluations.	In-class activities, such as medical terminology quiz, writing a "memo"	reflective writing on patient care HER assignment
NMED 486	Students should continue to demonstrate clinical competency in instrumentation quality control, radiation safety techniques, routine nuclear medicine imaging studies, radiopharmaceutical preparation and quality control, and patient-technologist interaction.	Ethical Issues: Ask students to research and write about ethical issues related to the use of nuclear medicine in clinical practice, such as radiation exposure, patient consent, and access to imaging or therapeutic procedures.	Case analysis Summary of reading assignments
NMED	Completion of required clinical documentation for	Imaging Technique Comparison: Ask students to compare and contrast	Comprehensive exam

487	the NMI Program Improve communications skills through service	different imaging techniques used in clinical nuclear medicine, including SPECT, PET, and planar imaging.	Resume with cover letter
UALH 270	Demonstrate required communication skills.	Concept Mapping Journaling	Review of workbooks
UALH 271	Demonstrate use of all medical and technical terms, which are necessary for a complete discussion of sonographic procedures.	Online postings	Writing exam
UALH 272	Describe the process of sound wave propagation; including rarefaction and compression.	Summary of journal articles	Personal Reflection Essay
UALH 273	Demonstrate required communication skills.	Reflective Journaling Concept Mapping	Writing exam
UALH 274	Develop proficiency in the correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures. Obtain and accurately document patient	Clinical logs	Read two journal articles a month and submit an article review for each.

	history.		
UALH 275	Proficiency in the correct use of all medical and technical terms which are necessary for a complete discussion of sonographic procedures.	Online participation and postings	Writing exam
UALH 276	Develop proficiency in the correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures. Obtain and accurately document patient history.	Online Forums	Writing exam
UALH 277	Demonstrate required communication skills.	Reflective Journaling Concept Mapping	Writing exam
UALH 278	Obtain and accurately document the clinical history of the patient. This includes the acquisition of the physician prescriptions, evaluating physician orders in the patient's chart, and documentation of	Clinical logs	A comprehensive, research and presentation paper.

	the LMP, if applicable.		
UALH 300	Develop proficiency in the correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures. Obtain and accurately document patient history.	Online Forums Posing questions	Writing exam
UALH 301	Demonstrate proficiency in the correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures.	Peer Review	workbook assignments
UALH 302	Demonstrate proficiency in the correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures.	Case analysis	Research paper
UALH	Demonstrate proficiency in the	Clinical logs	Read two journal articles a month and submit article

304	<p>correct use of all technical and medical terms, which are necessary for a complete discussion of the sonographic procedures.</p> <p>Describe the standard scanning procedures and protocols for the major organs and structures include within the specialty of pediatric sonography.</p>		reviews for each.
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Appendix A – Senior Writing Samples Assessment

Protocol

A random sample of writing will be collected from IMAG 480, Medical Imaging Seminar every spring semester. IMAG 480 has two writing assignments: case study and patient education brochure. An overview of the patient education brochure assignment is provided below.

Ethics statement for syllabi: The Allied Health undergraduate program is undergoing programmatic evaluation. Please be advised that your writing assignments may be randomly chosen for program assessment purposes. Program assessment activities will have no bearing on your course grade and, should your work be selected, your name will not be attached to it. If you have any questions about program assessment or wish to withdraw permission for use of your work, please Dr. Lei Hao (leihao@iup.edu).

An example of a writing assignment might look like this:

Directions: Prepare an educational brochure appropriate for an adult patient undergoing a Medical Imaging procedure (select one you would perform in your track). The purpose of this project is to create an educational brochure or handout which provides the following information: 1) description of the procedure 2) patient preparation 3) patient experience and 4) post procedure information. When compiling the brochure be sure to include

pertinent, concise information relevant for your audience. The brochure should be no longer than 2 pages. Use color and clip art to make your brochure interesting to read and understand. Please use APA style for your citations.

Rubric

Criteria	Exceptional 4	Meets Expectations 3	Developing 2	Insufficient 1
Content	The brochure demonstrates a clear and thorough explanation of the imaging procedure, including benefits, risks, and any necessary preparation.	The brochure provides a satisfactory explanation of the imaging procedure, but may lack depth or be unclear in some areas.	The brochure provides a basic explanation of the imaging procedure, but lacks clarity or detail.	The brochure does not provide a clear or accurate explanation of the imaging procedure.
Organization	The brochure is well-organized and easy to follow, with clear and logical sections that flow smoothly. Transitions between ideas are effective.	The brochure is generally well-organized, but may have some lapses in coherence or transitions.	The brochure is somewhat disorganized, with confusing transitions and/or lack of coherence.	The brochure is very disorganized, with no clear structure or coherence.
Design and Layout	The brochure is visually appealing, with appropriate use of images and graphics to enhance understanding. Text is easy to	The brochure is visually acceptable, but may have some design flaws or layout issues that detract from the content. Text is	The brochure is visually unappealing, with poor design choices or cluttered layout that makes it difficult to	The brochure is completely unappealing, with no effort made to improve readability or design.

	read and well-spaced.	generally readable, but may be too small or cramped.	read. Text is difficult to read or poorly spaced.	
Grammar and Mechanics	The brochure demonstrates excellent grammar and mechanics, with very few errors.	The brochure demonstrates good grammar and mechanics, but may have some minor errors.	The brochure demonstrates some problems with grammar and mechanics, including errors that interfere with meaning.	The brochure demonstrates significant problems with grammar and mechanics, including errors that significantly interfere with meaning.
APA Style	The brochure follows APA style guidelines accurately and consistently, demonstrating an advanced understanding of academic writing conventions.	The brochure follows most APA style guidelines, with some minor errors or inconsistencies.	The brochure demonstrates a basic understanding of APA style guidelines, but may have significant errors or inconsistencies.	The brochure does not follow APA style guidelines or demonstrates a complete lack of understanding of academic writing conventions.
Medical Terminology	Medical terminology and abbreviations used appropriately throughout the paper (no mistakes)	Medical terminology and abbreviations used appropriately most of the time (less than 3 mistakes)	Medical terminology and abbreviations used appropriately some of the time (more than 3 mistakes)	Medical terminology and abbreviations used incorrectly or not at all
Patient Empowerment	The brochure successfully empowers the patient by providing clear, accurate, and relevant	The brochure provides some relevant information, but may not empower the patient to make	The brochure provides incomplete or unclear information that does not empower the	The brochure does not provide any information that would empower the patient to

	information that enables them to make informed decisions about their care.	fully informed decisions.	patient to make informed decisions.	make informed decisions.
Overall Effectiveness	The brochure is highly effective in communicating important information to the patient, and is likely to improve their understanding and satisfaction with the imaging procedure.	The brochure is somewhat effective in communicating important information to the patient, but may have some areas that need improvement.	The brochure is not very effective in communicating important information to the patient, and may leave them confused or unsatisfied with the imaging procedure.	The brochure is completely ineffective in communicating important information to the patient, and is likely to leave them with incorrect or incomplete information.

Appendix B –Writing Assessment Results: Baseline Spring 2022

The Spring 2022 results are considered “baseline results” from a sample of 10 students in IMAG 480 class.

Response Rate=100%

Areas in which student writing is ABOVE expectations: 77+

Criterion 1: Content

year(s)	exceeds/meets	emerging/below
Spring 2022	40%/50%	10%/0

Criterion 2: Organization

year(s)	exceeds/meets	emerging/below
Spring 2022	20%/80%	0/0

Criterion 3: Design and Layout

year(s)	exceeds/meets	emerging/below
Spring 2022	20%/60%	20%/0

Criterion 4: Grammar and Mechanics

year(s)	exceeds/meets	emerging/below
Spring 2022	40%/60%	0/0

Criterion 6: Medical Terminology

year(s)	exceeds/meets	emerging/below
Spring 2022	20%/80%	0/0

Criterion 7: Patient Empowerment

year(s)	exceeds/meets	emerging/below
Spring 2022	20%/50%	30%/0

Criterion 8: Overall Effectiveness

year(s)	exceeds/meets	emerging/below
Spring 2022	20%/60%	20%/0

Areas in which student writing is MEETING expectations: 68-77

None

Areas in which student writing is BELOW expectations below 67 and below

Criterion 5: APA Style

year(s)	exceeds/meets	emerging/below
Spring 2022	0/20%	0/80%

Analysis and Recommendations from the WAC Director based on Assessment Results

Students in Allied Health are showing impressive command of necessary writing skills and abilities as described by the department in this document. The faculty should be applauded for supporting their students' writing efforts. I have two recommendations that I hope they'll consider over the next two years, before their biennial assessment:

- While certainly all faculty in Allied Health have expertise in the *use* of APA format, a faculty member in the department should facilitate professional development for all instructors in the *pedagogy* of APA format (the Writing Center director or WAC director could also assist in this). The faculty should also use the course outcomes map in this document to consider ways, over the next two years, to better scaffold APA skills into their courses so that students begin with an introduction in some classes, and then those skills are reinforced continually (and expectations for mastery are higher) in their other classes.
- Increasing sample size can improve accuracy of assessment results. For this baseline report, 10 samples were read. In the future, I suggest that faculty collect samples for an entire academic year (at least two semesters) to try to increase sample size.

References:

Gkiouleka, A., Aquino, M. R. J., Ojo-Aromokudu, O., van Daalen, K. R., Kuhn, I. L., Turner-Moss, E., . . . Ford, J. (2022). Allied health professionals: A promising ally in the work against health inequalities- A rapid review. *Public Health Pract (Oxf)*, 3, 100269. doi:10.1016/j.puhip.2022.100269