

## New Course Proposal Form

*The following information is required for all new course proposals. To facilitate the review/approval process, please use the headings below (and omit the italicized explanations below each heading).*

**1. Program: MScN Program and PHCNP MScN Program**

**2. Course Number: 5xxx**

**3. Credit Value: 0.5**

**4. Long Course Title: Data Analysis and Interpretation in Nursing and Health Care Research**

**5. Short Course Title: Data Analysis and Interpretation**

*This is the title that will appear on University documents where space is limited, such as transcripts and lecture schedules. The short course title may be a maximum 40 characters, including punctuation and spaces.*

**6. Effective Session: Fall 2022**

**7. Calendar (Short) Course Description:**

*This is the description of the course as it will appear in the University course repository and related publications. Calendar (short) course descriptions should be written in the present tense and may be a maximum of 60 words. Please include information with respect to any pre-/co-requisites and/or crosslisting or integration in the course description. Please indicate if the language of instruction is other than English.*

This course provides students with a practical understanding of the qualitative and statistical data analysis methods commonly used in nursing. Students will learn how to go through the steps involved in data analysis to answer research questions by performing appropriate analysis of the data, interpreting the results, appropriately communicating results, and to evaluate and interpret results from published research.

**8. Expanded Course Description:**

*This is the detailed course description that will be published in course outlines, program handbooks, etc. Expand upon the short description in order to give academic approval committees a full and clear sense of the aims and objectives of the course and the types of materials it will cover.*

This course is designed to provide students with the knowledge and skills needed to apply qualitative and quantitative data analysis methods commonly used in nursing and health care research. Students' learning will specifically focus on the knowledge and skills needed to design and implement data analyses plans to answer both quantitative and qualitative research questions. Topics to be covered include preparation of the data for analysis, checking analysis assumptions, choosing the appropriate data analysis strategy, analyzing the data and, interpreting and reporting results. Commonly used quantitative analysis approaches, ex. inferential parametric and non-parametric statistical tests will be examined. Furthermore, students will learn commonly used qualitative analysis approaches in nursing research. Students will also learn how to critically interpret results presented in published nursing and health care research.

*This is the detailed course description that will be published in course outlines, program handbooks, etc. Expand upon the short description in order to give academic approval committees a full and clear sense of the aims and objectives of the course and the types of materials it will cover.*

## 9. Course Learning Outcomes

(Necessary for Quality Assurance approval and cyclical program reviews)

*What will students be able to do upon completion of this course specifically?*

**Upon the completion of this course the student will be able to demonstrate the ability to:**

1. Apply appropriate descriptive analysis strategies for describing data.
2. Apply commonly used data management and analysis strategies in qualitative nursing research.
3. Synthesize and interpret qualitative research findings.
4. Apply appropriate parametric and non-parametric statistical tests to make inferences about research data to answer quantitative research questions.
5. Calculate and interpret effect sizes, confidence intervals, number needed to treat, number needed to harm in order to help determine clinical significance of quantitative outcomes.
6. Use selected data analysis software to complete descriptive, parametric and non-parametric analyses
7. Communicate research results to researchers, health care professionals and lay individuals.

## 10. Rationale:

*Please indicate how the proposed course will contribute to the academic objectives of the program. Please provide a description of the learning outcomes/objects for the course. As well, please indicate the relationship of the proposed course to other existing options, particularly with respect to focus/content/approach. If overlap with other existing courses exists, please indicate the nature and extent of consultation that has taken place. Additionally, please append the graduate program's existing learning outcomes as a separate document.*

Master's prepared nurses are expected to have the knowledge and skills needed to lead original research, facilitate the investigation of clinical problems and implement evidence informed practices based on quantitative and qualitative research. Therefore, students must be able to understand and implement the research process and lead and/or participate in proposal development, data collection, analysis, interpretation, integration and dissemination. This data analysis course will prepare graduates of the MScN program to function at the master's level within the discipline of nursing. This data analysis and interpretation course will complement and expand on students' knowledge gained in the Quantitative and Qualitative Research Methods courses (GS/NURS 5200 and 5300).

The research component of the MScN program is very prominent within the program; it contains two core research methods courses (the equivalent of one full-year course, or 6 credits), i.e., 5200, Qualitative Research Methods in Nursing and 5300, Quantitative Research Methods in Nursing. These courses are designed to enable students to understand and apply concepts, methods and procedures in the qualitative and quantitative research approaches used in nursing science. Currently our MScN students are required to select one of two core courses – either 5700 – Applied Intermediate Statistics in Nursing, or 5750 – Interpretation & Data Analysis, in addition to 5200 and 5300. Over the past 3 or so years, we have found that the great majority of

students selected 5750 rather than 5700. This raised faculty concerns about students missing an important understanding of statistical analysis. The consensus among faculty is that, even if students do not plan on regularly engaging in statistical analysis, they do need to comprehend this type of analysis.

This proposed data analysis and interpretation course, together with 5200 and 5300 core courses will provide our MScN graduates with the knowledge and skills to lead original research, facilitate the investigation of clinical problems and implement evidence informed practices based on quantitative and qualitative research. Once the merged course is approved, 5700 and 5750 will be retired.

This course has no overlap with other courses in the program.

This course is aligned with the following MScN Program Learning Outcomes.

- Explore different philosophical, theoretical, and empirical foundations of the nursing discipline.
- Differentiate best available theories and evidence to foster excellence in an advanced nursing practice.
- Explore research methodologies, critical inquiry and evidence to create excellence in practice, education and research.
- Incorporate knowledge mobilization and sustainability activities in their research and scholarship.
- Incorporate multiple ways of knowing in decision-making and problem solving, in partnership with clients.
  
- Influence the advancement of the nursing profession through excellence in practice, education and research.
- Demonstrate leadership in nursing practice
- Support healthy organizational and public policy that promotes the health of individuals, families, groups and communities
- Critically engage in knowledge generation through critical appraisal and integration of evidence and utilization of advanced knowledge and skills in advanced nursing practice.
- Model accountability and professional autonomy within an advanced practice role.

#### 11. Evaluation:

*Please supply a detailed breakdown of course requirements, including the type and percentage value of each assignment. The expectation is that course assignments can normally be accomplished within the course period. If applicable, details regarding expectations and corresponding grading requirements with respect to attendance and participation should be provided.*

- Participation - 10%
- Quantitative data analysis and interpretation assignment - 45%
- Qualitative data analysis and interpretation assignment – 45%

**12. Integrated Courses:**

Graduate courses may be integrated only with undergraduate courses at the 4000-level, where it is understood that 4000-level indicates an advanced level. Graduate students will be expected to do work at a higher level than undergraduates. If the proposed course is to be integrated, please provide a grading scheme that clearly differentiates between the work that undergraduate and graduate students perform, including a description of how the work performed by graduate students is at a higher level. As well, please indicate the course information for the undergraduate course (i.e., Faculty/unit/course number/credit value) and include a statement from the relevant undergraduate chair or undergraduate director indicating agreement to the integration.

**Will not be integrated with other courses**

**13. Crosslisted Courses:**

Crosslisted courses are offered between two or more graduate programs. For crosslisted courses, please include a statement of agreement from the director of the other graduate program(s).

**Will not be crosslisted.**

**14. Faculty Resources:**

Provide the names of faculty members in your program qualified to teach this course. Stipulate the frequency with which you expect this course to be offered, including the impact that this course will have on faculty resources.

Elsabeth Jensen, Mahdieh Dastjardi, Iris Epstein, Christine Kurtz Landy, Mary Fox, Nazilla Khanlou, Shahirose Premji.

**15. Physical Resources:**

Please provide a statement regarding the adequacy of physical resources (equipment, space, labs, etc.), including whether or not additional/other physical resources are required and how the need for these additional/other physical resources will be met.

Computer lab space and access to computing resources on campus and virtually are required throughout the course, data analysis software

**16. Bibliography and Library Statement:**

Please provide an appropriate and up-to-date bibliography in standard format. A statement from the University librarian responsible for the subject area certifying that adequate library resources are available for the new course must be provided.

**Required Text:**

Saldaña, J., & Omasta, M. (2018). *Qualitative research: Analyzing life*. Los Angeles, CA: Sage.

Plichta, S.B., Kelvin, E.A., & Munro, B.H. (2012). *Munro's statistical methods for health care research*. Philadelphia: Wolters Kluwer Health.

**Recommended:**

Basit, T. (2003). Manual or electronic? The role of coding in qualitative data analysis. *Educational research*, 45(2), 143-154.

Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219-234.

Birks, M., Chapman, Y., Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing*, 13(1), 68-75.

Casey, B., Proudfoot, D., & Corbally, M. (2016). Narrative in nursing research: An overview of three approaches. *Journal of Advanced Nursing*, 72(5), 1203-1215.

- Chowdhury, M. F. (2015). Coding, sorting and sifting of qualitative data analysis: Debates and discussion. *Quality & Quantity*, 49(3), 1135-1143.
- Gough, S., & Scott, W. (2000) Exploring the Purposes of Qualitative Data Coding in Educational Enquiry: Insights from recent research. *Educational Studies*, 26, 339-354.
- Eatoug, V., & Smith, J.A. (2006). I feel like a scrambled egg in my head: an idiographic case study of meaning making and anger using interpretative phenomenological analysis. *Psychology and psychotherapy: Theory, Research and Practice*, 79, 115-135.
- Houghton, C., Murphy, K., Shaw, D., & Casey, D. (2015). Qualitative case study data analysis: an example from practice. *Nurse researcher*, 22(5), 8-12
- Katz, J. (2015). A theory of qualitative methodology: The social system of analytic fieldwork. *Méthod (e) s: African Review of Social Sciences Methodology*, 1(1-2), 131-146.
- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health promotion practice*, 16(4), 473-475.
- Miles, M.B., Huberman, A.M., & Saldana, J. (2019). *Qualitative data analysis: A methods sourcebook*. 4<sup>th</sup> ed. CA: Sage.
- Parameswaran, U. D., Ozawa-Kirk, J. L., & Latendresse, G. (2020). To live (code) or to not: A new method for coding in qualitative research. *Qualitative Social Work*, 19(4), 630-644.
- Polit, D.F., & Beck, C.T. (2021). *Nursing research: Generating and assessing evidence for nursing practice*. 11<sup>TH</sup> ed. Philadelphia, P.A.: Wolters Kluwer .
- Sheldon, T. (2001). Biostatistics and study design for evidence based practice. *AACN Advanced Critical Care*, 12 (4), 546-559.
- Spence, D. G. (2016). Supervising for Robust Hermeneutic Phenomenology Reflexive Engagement Within Horizons of Understanding. *Qualitative health research*, 27(6):836-842.
- Thorne, S., Jensen, L., Kearney, M.H., Noblit, G., & Sandelowski, M. (2004). Qualitative metasynthesis: Reflections on methodological orientation and ideological agenda. *Qualitative Health Research*, 14(10), 1342-65.
- Williams, L., Rycroft-Malone, J., & Burton, C. R. (2016). Bringing critical realism to nursing practice: Roy Bhaskar's contribution. *Nursing Philosophy: an International Journal for Healthcare Professionals*, 18(2).
- Zanotti, R., & Chiffi, D. (2016). A normative analysis of nursing knowledge. *Nursing Inquiry*, 23(1), 4-11.

#### SPSS.

<http://www.ats.ucla.edu/stat/spss/default.htm>

<http://www.psych.utoronto.ca/courses/c1/spss/toc.htm>

Draft May, 2022

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Please submit completed forms and required supporting documentation by email to the Coordinator, Faculty Governance – [fgsgovrn@yorku.ca](mailto:fgsgovrn@yorku.ca)

March 29, 2022

## **NURS57XX .00 Data Analysis and Interpretation in Nursing and Health Care Research**

### **Required and Recommended Reading List:**

Our collection includes all the journals named in the reading list. Current editions of required and recommended books have been put on order should be available by the time the course is scheduled to run.

### **Electronic Resources and Databases:**

The primary databases and indexes of relevance include CINAHL (EBSCO), Nursing and Allied Health Source (ProQuest), MEDLINE (Ovid), PubMed, Public Health Database (ProQuest – NEW!), Joanna Briggs Institute EBP Database (Ovid), Embase (Ovid), EBM Reviews (Ovid), Web of Science, SCOPUS, Ulrich's International Periodicals Directory, and other specialized electronic resources are available.

Numerous electronic book packages such as Books@OVID, Canadian Electronic Collection – Health Research, and others are also available.

### **Style guides:**

American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). Washington, DC: American Psychological Association.

Iverson, C., & American Medical Association. (2007). AMA manual of style: A guide for authors and editors (10th ed. / Cheryl Iverson (chair) ... [et al.]). Oxford; New York: Oxford University Press.

### **Interlibrary Loans, Copyright and Reserves:**

Should there be a need for articles not available in our holdings, interlibrary loan and document delivery options are available through RACER for any additional information needs that may come up.

<https://www.library.yorku.ca/web/ask-services/borrow-renew-return/racer-interlibrary-loan/>. Articles ordered this way should arrive to the requester's e-mail in a few days. If you wish to post it in your e-class then approach the Copyright office <https://copyright.info.yorku.ca/> to get permissions to post the article. There is no limit to the number of articles that a student or faculty member may order through RACER per year, and these are delivered to the desktop, free of charge. Books can also be requested through this system free of charge.

Should course instructors want to place any required readings on reserve for student use at Steacie Library, please see the following <http://www.library.yorku.ca/cms/faculty/reserves/> for information about what materials can be posted, Fair Dealing Guidelines, etc. Items to be posted can be requested by filling out the form at: <http://www.library.yorku.ca/cms/faculty/reserve-request-steacie/>

### **Library Research and Information Literacy Support:**

The American Council of Research Libraries Information Literacy Competency Standards for Nursing include outcomes "written specifically to support nursing resources, language, and the value of evidence-based practice." <http://crln.acrl.org/content/75/1/34.full.pdf+html>

Please note that librarians provide research skills workshops to students and faculty on request, including but not limited to:

- Designing research strategies from asking a research question to searching the library catalogue, government sources, and databases such as CINAHL, Medline, ProQUEST

Nursing and Allied Health Source, Joanna Briggs Institute EBP Database, EBM Reviews, Web of Science, SCOPUS, etc. using controlled vocabulary and/or keywords where applicable

- Managing references using bibliographic management software such as Mendeley and EndNote
- Finding the evidence for evidence-informed practice
- Conducting systematic reviews

### **Research Guides:**

A Nursing Research Guide and Research Guides in other health fields have been created and are maintained by subject librarians to bring together online and print resources that may be useful to students and faculty in Nursing. Resources and links will be added upon request.

<http://researchguides.library.yorku.ca/nursing>

Please note too that research guides for Data and Statistics, Government Documents, and specialized tools such as Psychological Tests are available for use.

<https://researchguides.library.yorku.ca/?b=g&d=a>

### **Conclusion:**

The holdings in our library currently support undergraduate and graduate-level courses in related Nursing and other Health Studies programs, and supported the two courses that this course is based on. Collection development in the library is ongoing and is based on a commitment to developing library resources that are in alignment with the University's curricular and research activities. Books in this field will be added to the library collection as they are published.

Please forward any requests for purchase to the Nursing Subject Librarian: [ilo@yorku.ca](mailto:ilo@yorku.ca) or submit your purchase request by using the form at <http://www.library.yorku.ca/online/purchase.php>

In summary, I would state that we are well positioned to support this course.

Sincerely,

Ilo-Katryn Maimets, Science Librarian  
102K Steacie Science and Engineering Library  
Ext: x33927  
E-mail: [ilo@yorku.ca](mailto:ilo@yorku.ca)