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Research & Scholarship Curriculum Content

The <u>purpose</u> of this document is to provide a summary of educational modules and programmatic activities designed to optimize the research experience. The framework for this program is based on the experiential learning theory (Kolb, 1984).

The expected <u>outcome</u> of this program is to increase 1) interest in research, 2) knowledge and experience relative to research and scholarship, and 3) research and scholarship output.

The curriculum includes the following modules/activities:

- ➢ **Gaining Knowledge** - Provides content related to the research process. Can be followed in a pre-set order, or in a menu fashion - dependent on knowledge and experience of researcher.
- ➢ **Early Career Researchers** (*Applying knowledge*) – Activities for the novice researcher.
- ➢ **More Experienced Researchers** (*Applying knowledge*) – More advanced research and scholarship activities.
- ➢ **Special Interest Groups** (*Synthesizing knowledge & experience*) - A list of recurring individual or group activities to facilitate the research experience.

Topic	Content / Description	Duration (Incl. Q&A)
Gaining knowledge – Select content based on interests and experience		
Why Conduct Research?	https://www.youtube.com/watch?v=YDFIcgjB1j4 Video, presentation, and instructor led discussion to explore the value of research to society, and the researcher.	1 hr.
Setting Yourself Up for Success	An exploration of the factors that can help, or hinder being a successful researcher (Presentation). A 5-minute intro video presentation available online. https://www.youtube.com/watch?v=vZwg4JOWeJ0&t=3s	1 hr.
The Research Process	A review of the process of conducting a successful research project (Education, Opportunities, Resources, Development, Production, Output). Presentation and self-paced content are included.	1 hr.
Professionalism and Integrity in Research	A presentation with videos to explore research Misconduct.	1 hr.

Gaining knowledge – Select content based on interests and experience		
Registrations & Certifications	Requirements to conduct research (e.g., IRBnet.org, CITI Certs, etc.) Presentation and documentation.	1 hr.
Biostatistics I & II	Presentations based on material found on the USMLE exams. A brief introduction to SPSS is available online: https://www.youtube.com/watch?v=k7ZoYA6yXOE&t=3s	2 hrs. (2 sessions)
The IRB Process	IRB process for FAU, Baptist (including BRRH Research Committee) Tenet (Includes MetroWest IRB, and DMC Facility Research Committee: FRC). Includes presentations and flow-chart.	1 hr.
Interpreting the Literature	A presentation on interpreting the Method and Results sections of research articles. Additional content includes journal metrics and author metrics. Includes presentation and sample article with integrated notes.	2 hrs. (2 sessions)
The Data Management Plan (DMP)	Two-part presentation educates researchers on DMP specifics such as, 1) work to be performed, 2) Who is responsible for the work, 3) Standard Operating Policies (SOPs), and 4) documentation or output. During the second presentation, details are discussed that include CRF/eCRF creation, database design/ build, edit checks, query mgmt., managing non-CRF data, handling serious adverse events (SAEs), and database lock.	3 hrs. (3 sessions)
Research Methods I	A presentation on the, **What** to collect, **Who** to collect it from, how to **Collect** it, and how to **analyze** it. Content includes determination of participants, sample size, apparatus, materials, procedure, and statistical analysis.	2 hrs. (2 sessions)
Research Design I	A presentation on the types of quantitative designs. Based on a continuum, the design topics include, Descriptive, Correlational, Causal-Comparative/Quasi-Experimental, and Experimental research.	2 hrs. (2 sessions)
Disseminating your work	A discussion on optimizing a poster for presentation, tips on delivering oral presentations, and tips on networking at professional conferences. Discussion of recognizing predatory journals as well as selecting a journal.	1 hr.
Funding	Self-paced NIH introductory videos (e.g., https://grants.nih.gov/grants/how-to-apply-application-guide/video/index.htm).	1 hr.

Early Career Researchers *(Applying knowledge) For the novice researcher and/or those who desire projects with a shorter timeline*		
The Case Report	Presentation, discussion, and workshops to introduce and assist in creating a case report.	1 hr.
The Chart Review	Presentation, discussion, and workshops to introduce and assist conducting a retrospective cart review (RCR).	1 hr.
Database Research	Presentation, discussion, and workshops to explore the process of conducting a secondary dataset analysis. Includes hands-on activities and links to several databases.	2 hrs. (2 sessions)
Quality Improvement	QI Workgroup, Institute for Healthcare Improvement (IHI) Material, REDCap database.	1 hr.
More Experienced Researchers *(Applying knowledge) For the intermediate researcher*		
Survey Research	Presentation, discussion, and workshops to effectively conduct survey research. Topics of focus include development of item and stem, and effective online distribution. *(A 10-minute Qualtrics training video is available online)* https://www.youtube.com/watch?v=z_qdAFTPCJq&t=2s	2 hrs. (2 sessions)
Randomized Control Trials (RCTs)	Introduction to RCTs, but also Pragmatic Control Trials (PCTs), Adaptive Treatment Strategies (ATS), and Sequential Multiple Assignment Randomized Trial (SMART) designs.	1 hr.
Special Interest Groups *(Synthesizing knowledge & experience) Facilitated by content experts*		
The Research Experience	An experiential process that includes exploring interests, creating a research question(s), methodology, design, approvals, implementation, analysis, dissemination. Specific deliverables throughout the process.	Recurring activity
Journal Clubs	Recurring sessions to discuss current literature with a focus on the Method and Results sections.	Recurring activity
Database Special Interest Group (SIG)	Explore currently available databases, develop research questions, conduct database analyses, generate output.	Recurring activity

Special Interest Groups *(Synthesizing knowledge and experience) cont.*		
Case Report SIG	Identifying, selecting, writing, and disseminating case reports.	Recurring activity
Chart Review SIG	Explore and practice the process of conducting a chart review. Developing research questions, gaining approvals, obtaining the data, analysis, output.	Recurring activity
QI SIG	Using IHI QI material, the SIG identifies opportunities, builds project teams, implements QI project, generates output. Engages with QI workgroup.	Recurring activity
Survey Research SIG	Explore and practice the steps to conduct a survey research project. Includes developing a research question, item (survey questions) development, gaining approvals, creating online surveys, distribution, data collection, analysis, output.	Recurring activity
Prospective Research SIG	Explore and practice the process of conducting a prospective research project. Includes developing a research question, study design, building a team, gaining approvals, development, production, analysis, output.	Recurring activity
Disseminating Your Research	Sessions to collectively create effective and quality posters, oral presentations, and manuscripts for dissemination.	Recurring activity

A companion site (www.michaeldedonno.com) is available that provides content for many of the modules. The site provides content for researchers in multiple disciplines including business, education, medicine, nursing, and psychology.

Books that are included in modules

Beins, B. C., & McCarthy, M. A. (2017). Research methods and statistics. Cambridge University Press.
Creswell, J. W., & Creswell, J. D. (2017). Research Design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Sage.
Field, A. (2013). Discovering statistics using IBM SPSS statistics (5th ed.). Sage.
Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). Guilford publications.
Heppner, P. P., & Heppner, M. J. (2004). Writing and publishing your thesis, dissertation, and research: A guide for students in the helping professions. Thomson /Brooks/Cole.
Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice-Hall.
Prokscha, S. (2011). Practical guide to clinical data management. CRC Press.
Riegelman, R. K. (2020). Studying a study and testing a test (6th ed.). Lippincott Williams & Wilkins.
Szuchman, L. T. (2013). Writing with style: APA style made easy. Cengage Learning.
Triola, M. M., Triola, M. F., & Roy, J. A. (2006). Biostatistics for the biological and health sciences (2nd ed.). Pearson Addison-Wesley.
Troidl, H., McKneally, M.F., Mulder, D.S., Wechsler, A.S., McPeek, B., Spitzer, W.O. (Ed.). (1998). Surgical Research: Basic Principals and Clinical Practice. Springer.