ESM 228: Monitoring & Evaluation (F'23)

Instructors:
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Class meetings:
Mondays & Wednesdays 9:30-10:45 at Bren 1424

Office hours:
Buntaine (Bren 4422): Mondays 11-12 (booking link) or by appointment
Malagutti (Bonsai Room 4327): Thursdays 1-2 (booking link) or by appointment

Course Description

Evidence-based programming and policy-making are now priorities for many non-profit organizations and public agencies, including organizations that work on energy, climate change, and natural resource management. At the heart of evidence-based decision-making are *monitoring and evaluation* systems, which focus on the *prospective* design of data collection procedures and evaluations to support decision-making. To generate datasets that are useful for decision-making, organizations often have to create plans to collect data in advance of implementing programs. Likewise, the ability to evaluate the impacts of programs depends in large part on the ways that programs are rolled out and the data collection systems that are in place, which requires advanced planning. This course provides an overview of the considerations and techniques involved in *prospectively* designing monitoring and evaluation systems within public and non-profit organizations to support decision-making and accountability. We will explore the advantages of advanced planning for monitoring and evaluation, as opposed to relying passively on available data.

Student Evaluation

Participation: Your active participation is important for the success of this course. I expect that you will closely read all of the assigned articles and documents before coming to class and that you will be prepared to engage in all discussions and activities.

Practicums: The course is organized around four units, each of which culminates with a practicum where you will be asked to practice the skills discussed in that unit. The detailed instructions for the practicums will be laid out in separate documents. For each practicum, you can work in groups of up to three individuals. To promote team mixing, you can only work with any classmate once during the quarter in these groups. We will spend the practicum sessions on active work, group Q&A, and lightning presentations. For each practicum, your group will turn in a written product.

Grading:

Participation	10%
P1: Organizational M&E strategy (due: Wed 10/18 @ 5pm)	15%
P2: Theory of change (due: Mon 10/30 @ 5pm)	25%
P3: Measurement design (due: Mon 11/13 @ 5pm)	25%
P4: Impact evaluation design (due: Wed 12/13 @ 5pm)	25%

Course Policies

Assignment completion policy: You must complete all assignments to pass the course.

Re-grades: We take student evaluation seriously and do not entertain requests to re-grade assignments unless I receive a formal, written request for a re-grade that compellingly documents a serious oversight on my part. A serious oversight on my part indicates that the entire assignment should receive further attention. Your score may go up or down if I decide that an assignment needs this kind of attention, so plan accordingly. That being said, I strongly encourage you to meet with me to discuss my feedback on your assignments.

Academic Honesty: I expect you to adhere to the highest standards of academic honesty. This means only turning in work that is your own and properly citing all information and ideas that you draw from others. Any assignment that does not adhere to UCSB academic honesty guidelines will not receive credit and will be referred to campus judicial procedures. See: http://studentconduct.sa.ucsb.edu/academic-integrity

Course changes: It is possible that the order or content of the sessions will have to change. Pay attention to announcements and check back here often.

Reference Texts

Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (2015). *Handbook of Practical Program Evaluation*. John Wiley & Sons. (on-campus access only)

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). *Impact Evaluation in Practice*. Washington, D.C.: World Bank Publications.

Unit 1: Evaluation Strategy

Session 1 (M 10/2) — Introduction & preliminaries

Baylis, K., Honey-Rosés, J., Börner, J., Corbera, E., Ezzine-de-Blas, D., Ferraro, P. J., ... & Wunder, S. (2016). Mainstreaming impact evaluation in nature conservation. *Conservation Letters*, *9*(1), 58-64.

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). Why evaluate? Chapter 1, in *Impact Evaluation in Practice*. Washington, D.C.: World Bank Publications, pp. 1-30.

Session 2 (W 10/4) — Types of evaluations: formative, process, performance, impact

Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (2015). Planning and designing useful evaluations. Chapter 1, in Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (Eds.). *Handbook of Practical Program Evaluation*. John Wiley & Sons, pp. 7-35.

Epstein, D., & Klerman, J. A. (2012). When is a program ready for rigorous impact evaluation? The role of a falsifiable logic model. *Evaluation Review*, *36*(5), 375-401.

Session 3 (M 10/9) — Developing organizational M&E strategies
(No In-Person Class, Please Watch Recorded Lecture)

Skim these strategies for real-world examples:

United Nations Environment Programme (2020). Monitoring, Evaluation, and Learning Strategy and Action Plan. Chemical and Waste Management Programme.

California Department of Fish and Wildlife (2018). Marine Protected Area Monitoring Action Plan.

Global Environment Facility (2023). Four-Year Work Program and Budget of the GEF Independent Evaluation Office.

Session 4 (W 10/11) — Organizational M&E strategy (practicum working day)

Hatry, H. P. & Newcomer, K. E. (2015). Pitfalls in evaluations. Chapter 26, in Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (Eds.). *Handbook of Practical Program Evaluation*. John Wiley & Sons, pp. 701-724.

Assignment: design an organizational M&E strategy for an organization that you might like to work for. Identify the key questions that an M&E strategy could answer and discuss how you will utilize scarce resources for achieving the learning or accountability objectives of the organization.

Unit 2. Theory of Change

Session 5 (M 10/16) — Theory of change in practice (Guest speaker: Rachel Kenny)

Conservation International (2013). [Constructing theories of change models for ecosystem-based adaptation projects: a guidance document](#). Conservation International. Arlington, VA.

==[TBD: materials to read from guest speaker]==

Session 6 (W 10/18) — Theory of change (short lecture and practicum working day)

Examples of theories of change (read two):
[Alaska Conservation Foundation](#)
[Rare](#)
[Marine Stewardship Council](#)
[Ford Foundation](#)
[WASH Alliance International](#)

Forti, M. (2012). [Six theory of change pitfalls to avoid](#). Blog post.

Assignment: Pick a future-oriented program or strategy for an organization that is intended to have an impact on outcomes you care about. Sketch out and justify a detailed theory of change that links the input and activities of the organization to the targeted outcomes and impacts.

Session 7 (M 10/23) – Theory of change (practicum poster day)

Assignment: Create a poster from several sheets of normal sized paper displaying your theory of change. Come prepared to present the theory of change to colleagues and engage in discussion when they provide feedback.

Unit 3: Measurement

Session 8 (W 10/25) — From measurement to results framework

Kopper, S. & Perry, K. (2022). Introduction to measurement and indicators. Available at: https://www.povertyactionlab.org/resource/introduction-measurement-and-indicators

Independent Evaluation Group. (2012). [Designing a results framework for achieving results: a how-to guide](#). Washington, D.C.: World Bank.

Example of indicator banks (skim one):

Anderson, J. L., Anderson, C. M., Chu, J., Meredith, J., Asche, F., Sylvia, G., ... & McCluney, J. K. (2015). The fishery performance indicators: a management tool for triple bottom line outcomes. *PLoS One*, *10*(5), e0122809.

U.S. Government (2019). *Feed the Future Indicator Handbook*. Washington, D.C.: Feed the Future.

Session 9 (M 10/30) — Interviews, surveys, and human subjects

Newcomer, K. E. & Triplett, T. (2015). Using surveys. Chapter 14, in Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (Eds.). *Handbook of Practical Program Evaluation*. John Wiley & Sons, pp. 344-382.

Nuno, A., & John, F. A. S. (2015). How to ask sensitive questions in conservation: A review of specialized questioning techniques. *Biological Conservation*, *189*, 5-15.

Session 10 (W 11/1) - Sampling

Rooney, B. J., & Evans, A. N. (2018). Selecting research participants. *Methods in Psychological Research*. Sage Publications, pp. 125-139.

Salkind, N. J. (2010). Stratified sampling. Encyclopedia of Research Design. Sage Publications. doi: https://dx.doi.org/10.4135/9781412961288.n445

Session 11 (M 11/6) — Measurement strategy (practicum working day)

Example results frameworks / measurement strategies
Green Climate Fund
CGIAR
Food and Agriculture Organization
California Water

Assignment: Pick a future-oriented program or strategy for an organization that it intended to have an impact on outcomes you care about. Sketch out a detailed results framework for the program. Additionally, design a data collection instrument that will be used to measure the outcomes in your results framework.

Template (Gates Foundation)

Unit 4: Impact Evaluation

Session 12 (W 11/8) — Causal inference and counterfactuals

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). Causal inference and counterfactuals. Chapter 3, in *Impact Evaluation in Practice*. Washington, D.C.: World Bank Publications, pp. 47-62.

Ferraro, P. J. (2009). Counterfactual thinking and impact evaluation in environmental policy. *New Directions for Evaluation*, *2009*(122), 75-84.

Session 13 (M 11/13) — Randomized evaluations

Jayachandran, S., De Laat, J., Lambin, E. F., Stanton, C. Y., Audy, R., & Thomas, N. E. (2017). Cash for carbon: A randomized trial of payments for ecosystem services to reduce deforestation. *Science*, *357*(6348), 267-273.

Aklin, M., Bayer, P., Harish, S. P., & Urpelainen, J. (2017). Does basic energy access generate socioeconomic benefits? A field experiment with off-grid solar power in India. *Science Advances*, *3*(5), e1602153.

Duflo, E., Greenstone, M., Pande, R, & Ryan N. (2013) Truth-telling by Third-party Auditors and the Response of Polluting Firms: Experimental Evidence from India. *The Quarterly Journal of Economics.*

Session 14 (W 11/15) — Design principles for randomized evaluations

Gerber, A. S., & Green, D. P. (2012). *Field experiments: Design, analysis, and interpretation*. WW Norton. Chs. 2-3. [posted on Gauchospace]

Session 15 (M 11/20) — Principles of power analysis

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). Choosing a sample. Chapter 15, in *Impact Evaluation in Practice*. Washington, D.C.: World Bank Publications, pp. 261-290.

Buntaine, M.T, Zhang, B. & Hunnicutt, P. (2021). Citizen Monitoring of Waterways Decreases Pollution in China by Supporting Government Action and Oversight. *Proceedings of the National Academy of Sciences,* forthcoming.

Session 16 (W 11/22) — Power analysis problem-set (No class in-person, open office hours)

https://www.povertyactionlab.org/sites/default/files/Exercise-PowerCalcs_0.pdf

Power calculator Shiny app: https://egap.shinyapps.io/power-app/
DeclareDesign Wizard: https://eos.wzb.eu/ipi/DDWizard/

Session 17 (M 11/27) — Design challenges of randomized evaluations

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). Addressing methodological challenges. Chapter 9, in *Impact Evaluation in Practice*. Washington, D.C.: World Bank Publications, pp. 159-174.

Glennerster, R. (2017). The practicalities of running randomized evaluations: partnerships, measurement, ethics, and transparency. In *Handbook of Economic Field Experiments* (Vol. 1, pp. 175-243). North-Holland.

Session 18 (W 11/29) — Mechanisms

Astbury, B., & Leeuw, F. L. (2010). Unpacking black boxes: mechanisms and theory building in evaluation. *American Journal of Evaluation*, *31*(3), 363-381.

Levy Paluck, E. (2010). The promising integration of qualitative methods and field experiments. *The ANNALS of the American Academy of Political and Social Science*, *628*(1), 59-71.

Session 19 (M 12/4) — Quasi-experimental evaluations

Henry, G. T. (2015). Comparison group designs. Chapter 6, in Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (Eds.). *Handbook of Practical Program Evaluation*. John Wiley & Sons, pp. 137-157.

Ahmadia, G. N., Glew, L., Provost, M., Gill, D., Hidayat, N. I., Mangubhai, S., & Fox, H. E. (2015). Integrating impact evaluation in the design and implementation of monitoring marine protected areas. *Phil. Trans. R. Soc. B*, *370*(1681), 20140275.

Session 20 (W 12/6) — Impact evaluation (practicum working day)

Reading: 3ie Impact Evaluation Database (read at least two impact evaluations of interest)

Further reading: Ferraro, P. J., Cherry, T. L., Shogren, J. F., Vossler, C. A., Cason, T. N., Flint, H. B., ... & van Boven, L. (2023). Create a culture of experiments in environmental programs. *Science*, *381*(6659), 735-737.

Assignment: Pick a program of interest that has yet to be implemented, but for which a full description or initial appraisal has been carefully documented. Design an impact evaluation for this program that can be used to estimate the impacts of the program. The impact evaluation should address: (1) treatment; (2) randomization; (3) sample; (4) power; (5) contingencies; and (6) mechanisms.

Syllabus change log
1 — original syllabus posted on first day of instruction (10/2/2023)