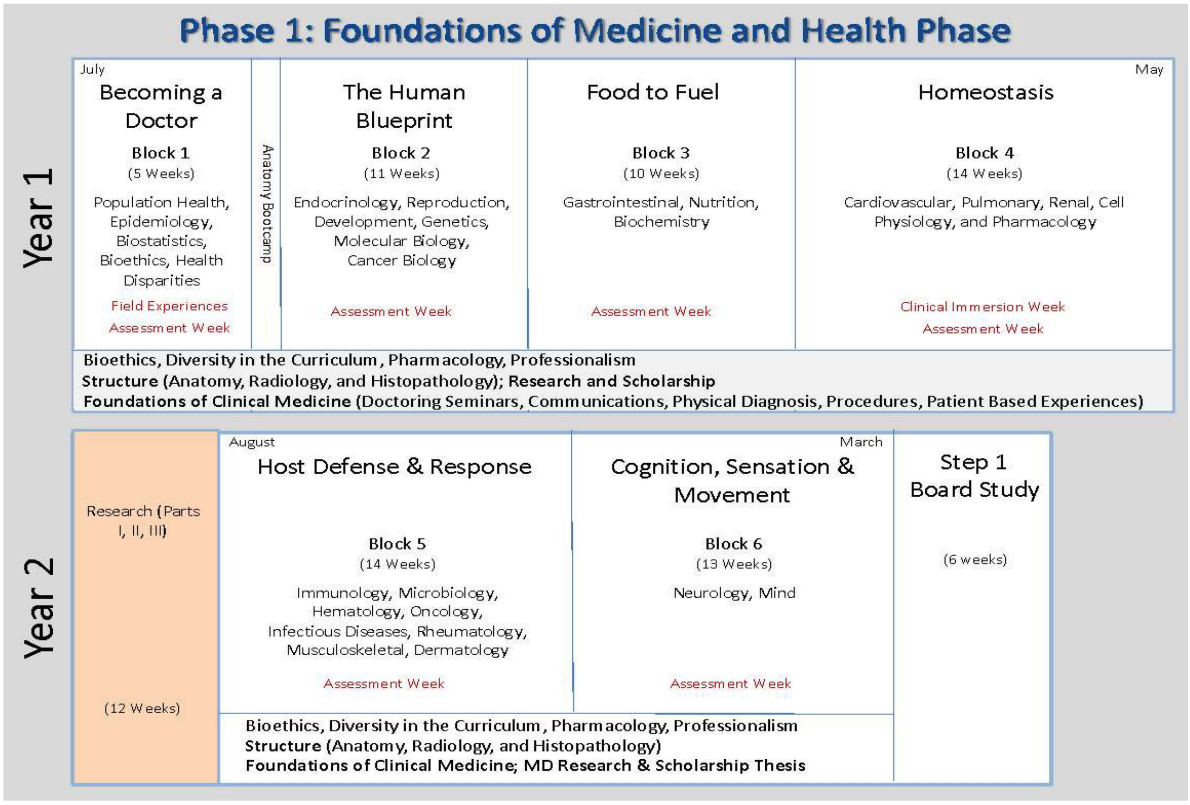
Case Western Reserve University – University Program Block 2:

Action Plan 2024-2025



1. **Course Description**

The Block 2 curriculum covers the foundational disciplines of Genetics/Molecular Biology, Hormone Signaling, and Embryology/Development in the context of the clinical disciplines of Endocrinology, Reproduction and Cancer. A framework for understanding the fundamental genetic/molecular, cellular, and physiological mechanisms affecting health and disease is provided. The foundational and clinical disciplines are integrated through three major themes: 1) genetic changes (mutations) that lead to disease and their patterns of inheritance; 2) the regulation of gene expression and signal transduction at the cellular level and the phenotypic consequences of dysregulation, and 3) the normal transmission of hormonal signals between cells and organs and how disruption of communication causes disease states. Block 2 also incorporates concepts from Bioethics including informed consent, respect for autonomy, beneficence/nonmaleficence, and justice, and foundational concepts in pharmacology.

2. **Block Leader(s)**

Co-Leader: Sam Mesiano, Ph.D. (Reproductive Biology, CWRU)
Co-Leader: Jennifer Yoest, MD (Pathology, CWRU/UHHS)
Block manager: Nivo Hanson
Design Team:

- *Genetics/Molecular Biology*

    - Craig Hodges, PhD (Genetics and Genome Sciences, CWRU)
    - Aditi Parikh, MD (Genetics; CWRU/UHHS)
    - Shashirekha Shetty, PhD (Genetics; CWRU/UHHS)
- *Hormone Action (Cell biology and signaling)*
    - George Dubyak, PhD (Physiology & Biophysics, CWRU)
- *Reproduction*
    - Sam Mesiano, PhD (Reproductive Biology; CWRU)
    - Rachel Weinerman, MD (Reproductive Biology, CWRU; Ob/Gyn UHHS)
- *Cancer*
    - Jacob Scott, MD PhD (CWRU/CCLCM)
    - Jennifer Yoest, MD (Pathology, CWRU/UHHS)
    - [need another member to replace Jimmy Martin]
- *Endocrinology*
    - Laure Sayyed Kassem, MD (Endocrinology, CWRU/VA)
- *Bioethics*
    - Nicole Deming, JD (CWRU)
- *Development/Embryology*
    - Scott Simpson, PhD (Anatomy, CWRU)

3. Course Objectives

No recommended changes to the course objectives.

Competency & Definition	**Educational Program Objective (EPO)**	**Course Objective**	**Recommended Changes**
Professionalism Demonstrates commitment to high standards of ethical, respectful, compassionate, reliable and responsible behaviors in all settings, and recognizes and addresses lapses in professional behavior.	1. Meets obligations in a reliable and timely manner. 2. Exhibits professional behavior or addresses lapses in professional behavior. 3. Consistently demonstrates compassion, respect, honesty and ethical practices.	• Understand and practice the behaviors of an ethical, respectful, compassionate, reliable, and responsible physician. (1, 2, 3)	none
Teamwork and Interprofessional Collaboration Demonstrates knowledge, skills and attitudes to promote effective teamwork and collaboration with health care professionals across a variety of settings.	1. Performs effectively as a member of a team. 2. Respects and supports the contributions of individuals on an Interprofessional health care team to deliver quality care.	• Develop and practice the knowledge and skills that promote effective teamwork across a variety of settings. (1,2)	none

Reflective Practice Demonstrates habits of ongoing reflection and analysis to identify learning needs, increase self-awareness, and continuously improve performance and personal growth.	1. Demonstrates habits of ongoing reflection using feedback from others as well as self-assessments to both identify learning needs (cognitive and emotional) and practice continuous quality improvement.	• Demonstrates habits of ongoing reflection to identify learning needs, increase self-awareness, and continuously improve performance and personal growth. (1)	none
Interpersonal and Communication Skills Demonstrates effective listening, written and oral communication skills with patients, peers, faculty and other health care professionals in the classroom, research and patient care settings	1. Effectively communicates knowledge as well as uncertainties. 2. Uses effective written and oral communication in clinical, research, and classroom settings 3. Demonstrates effective communication with patients using a patient-centered approach	• Understand and demonstrate effective communication skills for learning and clinical practice environments. (1, 2, 3)	none
Knowledge for Practice Demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences as well as the application of this knowledge to patient care	1. Demonstrates appropriate level of clinical, basic, and health systems science knowledge to be an effective starting resident physician. 2. Demonstrates ability to apply knowledge base to clinical and research questions	• Recognize and analyze ethical problems in clinical medicine and biomedical research using the principles of autonomy, beneficence, nonmaleficence and justice. (2) • Understand and practice the behaviors of an ethical, respectful, compassionate, reliable, and responsible physician. (2)	none
Patient Care Demonstrates proficiency in clinical skills and clinical reasoning; engages in patient-centered care that is appropriate, compassionate and collaborative in promoting health and treating disease	1. Demonstrates knowledge, skills, and behaviors to perform history taking, physical examination and procedures appropriate to the level of training and clinical setting. 2. Uses evidence from the patient's history, physical exam, and other data sources for clinical reasoning to formulate management plans.	•	none

	3. Incorporates a patient's perspective, values, context, and goals into all aspects of the clinical encounter. 4. Identifies and critically analyses relevant literature and practice-based guidelines to apply best evidence of patient care and management 5. Incorporates diagnostic, therapeutic, and prognostic uncertainty in clinical decision making and patient care discussions		
Research and Scholarship Demonstrates knowledge and skills required to interpret, critically evaluate, and conduct research	1. Analyses and effectively critiques a broad range of research papers. 2. Demonstrates ability to generate research questions and formulate methods to answer these questions. 3. Demonstrates ability to initiate, complete and explain his/her research.	• Analyze, critique and present research studies from the primary literature. (1)	none
Personal and Professional Development Demonstrates the qualities required to sustain lifelong personal and professional growth	1. Critically reflects on personal values, priorities, and limitations to develop strategies that promote personal and professional growth 2. Recognizes when personal views and values differ from those of patients, colleagues, and other care givers and reflects on how these can affect patient care and research 3. Identifies challenges between personal and professional responsibilities and develops strategies to address them		none
Systems-based Practice Demonstrates an understanding of and responsiveness to health care systems, as well as the ability to call	1. Applies knowledge of health care systems to patient care discussions. 2. Demonstrates awareness of context of care, patients' values, health care system,	•	none

effectively on resources to provide high value care	and environment in clinical care. 3. Applies principles of quality improvement and safety to patient care.		

4. **In the grid below, please list the specific course changes you made this year based on last year's report.**

What changes were made 2024-2025?	How did the changes work?	What would you like to change next year 2025-2026?
Updates to week 10 IQ case (integration) to re-emphasize the review material goals and minimize drug name details, etc.	Changes were well received. There was minimal feedback about this case, as opposed to significant negative feedback the prior year.	Nothing - this worked well. Will keep case as is.
New content expert and lecturer for embryology, Dr. Scott Simpson	As with most years, some students considered the embryology curriculum dense and too granular.	See below changes planned for 2025 to improve the embryology/development content by improving its integration into other related disciplines in the curriculum.
Moved some review sessions to "office hours" away from thursday mornings to allow GARLA to use these time slots.	Both formats (zoom review and office hours) had poor attendance.	Evaluate views of zoom reviews, consider whether to move back or keep moving toward office hours. Announce/explain accessibility of faculty through contact information, etc. during the intro talk.
Sessions from the final integration week to Wednesday noon slots throughout the block where the material was relevant	Attendance continued to be poor, but there was no specific negative feedback this year except that using all Wednesdays conflicted with some electives.	Alter scheduling again in an attempt to improve these sessions; see below for more details

5. **What additional changes do you anticipate making to the Block in the next academic year (lectures, TBL, IQ cases, other)?**

Changes anticipated for next academic year	Reason for changes (evidence/feedback)
Embryology Lecture content: Overall simplification of details and adding clinical correlation focus to provide relevance and context. For example, improve coordination between sex determination lectures and embryology lectures and look for other opportunities to more closely connect the embryology content to the other disciplines (cancer, genetics, endocrine, cell biology/signaling).	Student feedback highlighted the details and depth of the lectures as being too much too fast, and overwhelming. General student feedback that disciplines are not well integrated.
Consider adding content on PCOS to connect reproduction, endocrinology, and cell biology. Possibilities include clinical correlation session, or regular lecture section. Consider a similar approach for CAH to integrate genetics, endocrine, cell biology, reproduction, and development. Continue to	Some student requests to cover PCOS, desired by block leaders to cover a common, important women's health condition from a basic science perspective.
encourage cross-mentions and clinical examples that integrate basic science disciplines	Student feedback that disciplines feel disjointed and integration could be improved
Clinical correlation sessions: Alter the approach to these sessions to increase attendance. Continue to	Continued poor attendance at these sessions. Feedback that there are electives that interfere and varying the day of the week may capture more attendees.
offer throughout the block instead of the last week, do not hold all on the same day of the week, move patient sessions to regular lecture slots and require attendance, move Gene Therapy lecture to CC session, potentially move to smaller venue, offer food if possible IQ case updates: earlier and more careful review of new "clues" that were suggested by AI and added at	Student feedback on easter eggs and case formatting errors due to these additions, certain cases that still need more prompting.
the last minute. Update breast cancer case to stand up to recent and future clinical guideline changes. Add clue for "Robertsonian translocations" to T21 case. Mention careful resource utilization during block 2	Direct observations of students making learning
intro lecture: board review sites, AI, etc. Make sure to align with any existing University/SOM policies.	resource choices during IQ and the curriculum.

Add the upcoming week's lecture titles/topics to the IQ facilitators' weekly emails to improve knowledge/awareness of how the IQ cases and LOs/OLOs integrate with the lecture content.	IQ facilitator feedback; student feedback that content is not integrated across disciplines; poor lecture attendance.
Continued harmonization of the IQs with lecture schedule. This is an ongoing challenge with multiple lecturers, as with every block.	Student feedback that certain sessions came after IQ case discussions and so de-emphasized the importance of lecture content for IQ learning and the overall curriculum.

6. **What successful, innovative components of your block are best practices that you would like to share with the other Blocks?**
   The Active Learning in Teams sessions on molecular biology and genetics continue to be well received. Students highlight the fact that these sessions allow them an opportunity to practice complex molecular biology and genetics concepts in real time with guidance which significantly enhances their learning.

Block 2: The Human Blueprint – Highlighted Faculty Responses to Student Feedback	
Student Feedback **(examples of most common for areas to improve)**	**Action Items**
Embryology/Development: "...more concise, boiled down content relating to embryology would be helpful…"	New faculty member for embryology content. Enthusiasm was well received. The lectures were flagged for being overly complex. Lecture content will be redesigned to be slightly simplified and directly linked to basic and clinical concepts in other Block 2 disciplines.
Curriculum diversity: "This block covered such a wide range of topics that it was sometimes difficult to synthesize and connect all of the material we were learning.."	We continue to improve integration of Block 2 disciplines and provide clinical correlation, encouraging lecturers to use clinical examples that cross disciplines covered in the course for reinforcement.
IQ: "...Certain IQ official learning objectives were at times difficult to ascertain from the case narrative…"	IQ vignettes will be reviewed and revised where necessary to add subtle clues that facilitate identification of learning objectives.
Lectures: "...lectures could be organized a bit better so that there was less jumping around."	This is a scheduling challenge that is encountered annually. The schedule will be modified in 2025 to better integrate clinical correlation sessions and synchronize with IQ content.

8. **Describe how faculty teaching quality was reviewed for your block. What faculty development opportunity was offered in response to student feedback?**

   Overall, teaching evaluations were strong. A few lecturers were highlighted repeatedly for strong communication skills and well organized slides; these faculty will be encouraged to share slides with new lecturers as best practices. A minority of lectures were highlighted as being too complex (embryology, see above) or running out of time. No specific action is warranted at this time. Student feedback did not provide cause for faculty development.

9. **Response to Student Feedback**

   See table

10. **What changes have you made, or do you anticipate making to better prepare students to care for diverse populations?**

    None at this time: our IQ cases and lecture content cover a very wide range of patient populations and phenotypes and no changes are anticipated at this time.

11. **Response to Program Evaluation Committee (PEC) Report**

The areas for improvement highlighted by the PEAC report are below and each will be addressed by the design team in preparing 2024-2025 Block 2. (See above for points incorporated into changes planned)

Class of 2028 was asked questions about Block 2 components. Results are reported below as compared to results of the previous three years. Responses/Expected: 177/183 (97%)

Block 2: The Human Blueprint				
General Block Aspects				
Block Components	2021-22 %	2022-23 %	2023-24 %	**2024-25 %**
Lectures	50	70	73	**73**
IQ cases	87	87	89	**97**
Active Learning in Teams (ALT)	--	86	84	**84**
Clinical Correlation Sessions	--	--	68	**87**
Overall quality of this block	67	83	83	**86**
Block Concepts/Integration of Block Concepts and Longitudinal Themes				
Endocrinology	93	96	94	**96**
Reproduction	80	92	87	**84**
Genetics	79	80	75	**--**
Cancer	80	89	79	**80**
Molecular Biology	--	66	65	**--**
Genetics/Molecular Biology	--	--	--	**80**
Embryology/Development	--	--	69	**37**
Cell Biology/Cell Signaling	--	69	73	**70**
Bioethics	60	78	61	**78**
Pharmacology	--	63	69	**68**

Percentage of Students who rated “Good” or “Excellent”

12. **Acknowledgments**

Thanks to:

The past and present members of the Block 2 Design Team.
Faculty members who contributed to the block as lecturers, IQ facilitators, and ALT facilitators.
Course manager, **Nivo Hanson**, for shepherding the Block 2 team towards its goals,
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Kelli Qua for overseeing assessments and feedback,
Celinda Miller for overseeing IQ cases and facilitators.
The AV and IT technical support teams: **Paul Salzgeber**, **Diana Nguyen**, and **Darin Johnson.**