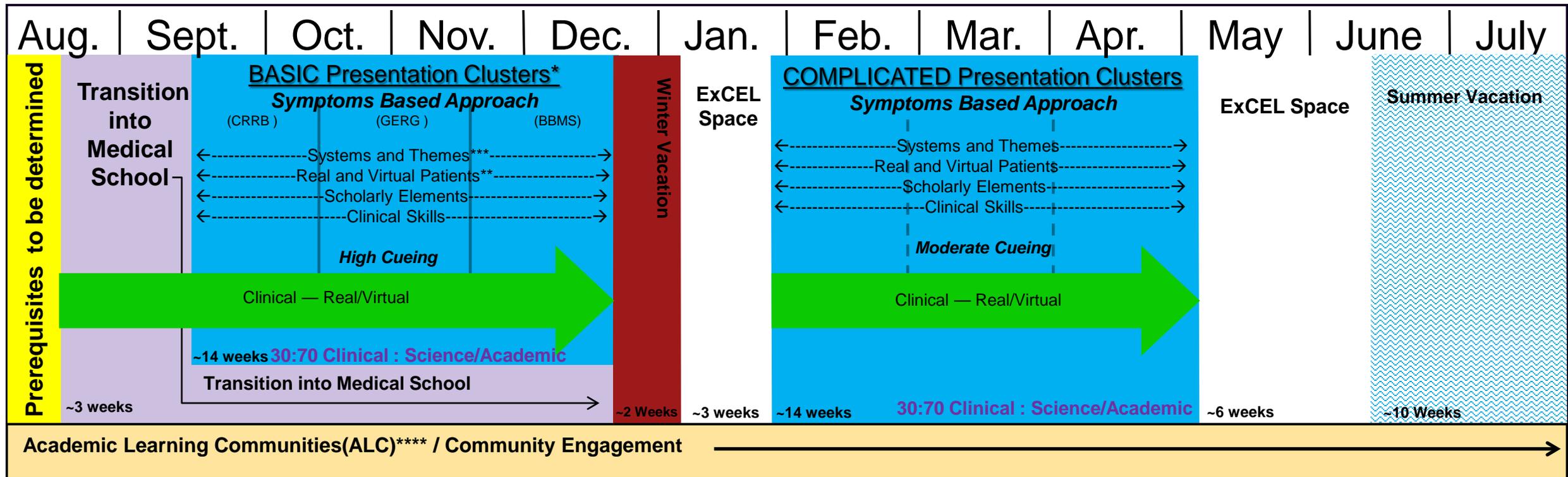


# Model MD Undergraduate Program Curriculum Schedule



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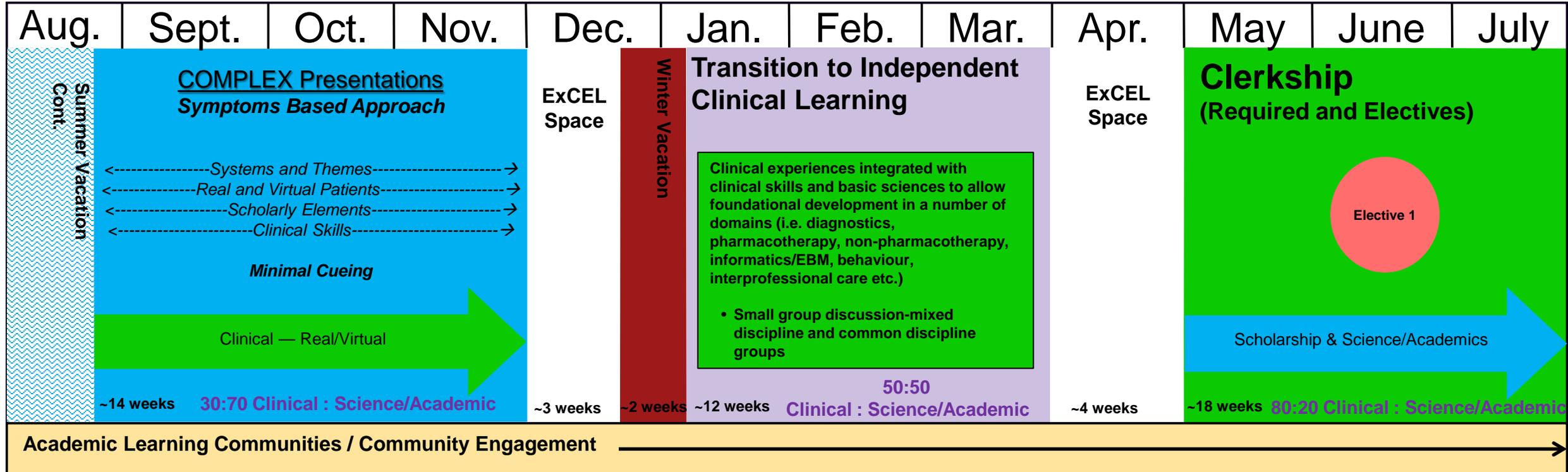


\*Clusters: CRRB-Cardio/Resp/Renal/Blood, GERG -GI/Endo/Repro/Growth, BBMS-Brain/Behaviour/MSK/Skin

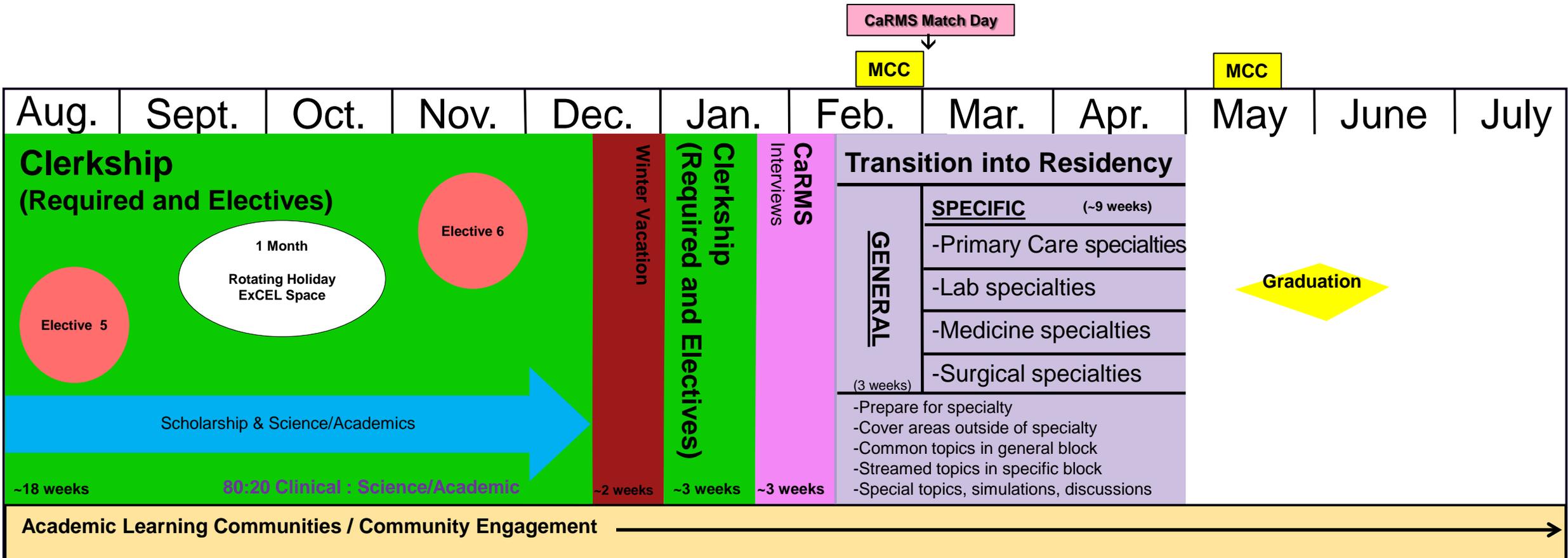
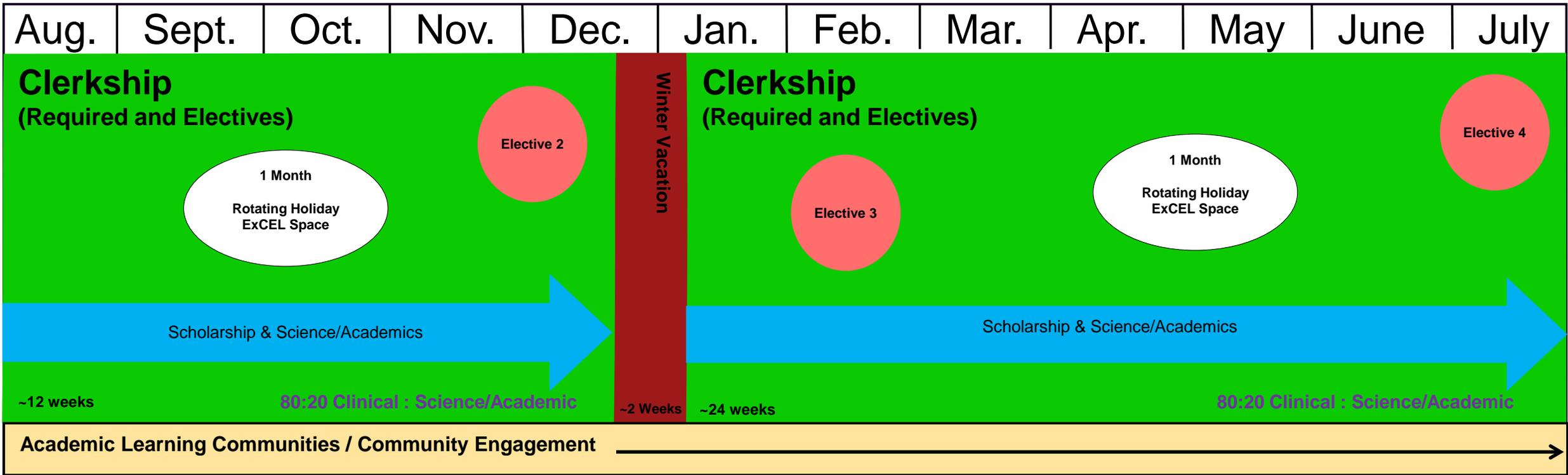
\*\*Real and Virtual Pts: Symptom/ Disease/ Health Problem

\*\*\*Themes: EBM/ Pharmacology/ Anatomy/ Histology/ Infectious diseases/ Ethics/ Vulnerable populations/ Social accountability/ Pathology/ Physiology/ Health promotion/ Communication/ Diagnostics/ Labs/ Psychology/Psychosocial aspects of behaviour/ Community/ Health Systems/ Patient Safety/ Social Construction of Health/ Collaborator/Team Care/ Genetics/Molecular Biology

\*\*\*\*ALC: Title clinician, Patient experiences, longitudinal patient attachment, understanding the health system, identity formation



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# Curriculum Design Frequently Asked Questions

## Preamble

This list of twenty-two questions and answers has been design to address some of the questions you may have regarding curriculum renewal. This document is part of a larger body of material that includes the draft curriculum design diagram, online curriculum design presentations, curriculum design principles and program mission, goals and objectives as well as a wide range of other background and supporting material. Some of these materials are living documents and will be changed accordingly as we move forward with curriculum renewal.

The new curriculum will demonstrate greater attention to continuity, flexibility and integration of learning. There will be more contextual learning, early attention to clinical reasoning and problem solving, a greater attention to the health care system and a scholarship thread. This competency based curriculum will be underpinned by a social responsibility mandate.

Many elements of the current curriculum have been retained and others have been reorganized to support these above initiatives (small group leaning, attention to both the biological and non-biological foundations of medicine, clinical skills, early clinical experiences and a comprehensive clerkship). Some early changes envisioned are a more integrated assessment system, case based learning, integration of the foundational sciences through all four years and the development of academic learning communities. Prototypical learning activities are in the planning stages now and will be piloted in the coming months. These prototypes will support the full implementation of the renewed curriculum.

### **1) *Why are we changing the curriculum—I thought it was good?***

What is in place right now is a good curriculum. We are currently in compliance with 130/130 accreditation standards. But the current curriculum is 15 years old and students, teachers, and accreditation reviewers have all identified some problems that need to be explicitly addressed in the new curriculum. Over the past decade and a half the curriculum has not experienced much change as we were all so focused on ensuring the expansion of the MD program was successful. We have been advised to renew our curriculum by the accreditors as well as by the dean's reviewers. The Future of Medical Education in Canada initiative as well as the Carnegie review of medical education has provided support and rational for renewing our curriculum. In addition, surveys carried out by UBC and others of graduating students and graduates in residency have also pointed the way forward to renewal. Lastly the literature shows that the natural life span of a curriculum is between 10-15 years at which time it appears to be valuable to put all the cards on the table and discuss if we should be doing things differently and teaching different things in light of advances and changes in the structure and nature of medicine and medical education practice.

### **2) *Where are we with Curriculum Renewal?***

A significant outcome of curriculum renewal is the draft curriculum design. The curriculum design is a graphical representation of the work of a wide range of groups. This design has integrated the work of the Dean's Task Force on Curriculum Renewal (DTFCR), the 11 working groups, student, staff and faculty surveys and consultations as well as external partners (Future of Medical Education in Canada and the Carnegie), other institutions and best practices from the literature. This design represents the culmination of a two year comprehensive process that has engaged a wide range of stakeholders. As

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part of this engagement process, the curriculum design has been presented in over 20 venues over the past 3 months. In addition, you tube videos have been developed that outline the new design (<http://www.youtube.com/watch?v=vpGZdJVtVms>) and how the new design draws on the best and addresses weaknesses in the current curriculum (<http://www.youtube.com/watch?v=3r2F15QaMx4>). Feedback from this process has been addressed by the curriculum design working group and has resulted in a number of modifications to the design. During this consultation process, pilot opportunities have been identified.

### **3) *How long will the new the curriculum be?***

The curriculum will run for four years. Most students will complete the program in that time, but some may take longer for reasons such as: additional time needed to complete core competencies, family and/or health leave, an intervening degree (MPH) or the pursuit of a combined degree program such as the MD/PhD. This approach reflects the program's current practice but criteria under which a student can take more than four years will now be explicitly understood. We have attached time units to the curriculum elements in the draft design but these are neither hard nor fast and are primarily for illustrative purposes.

### **4) *Where is my week/block/course from the current curriculum?***

This high level draft design has outlined a curriculum that addresses recommendation from the working groups and other sources. Continuity, integration and flexibility will require us to change how we currently deliver the curriculum. We have designed a curriculum that will allow us to draw upon what is best in the current curriculum but will also allow us to also address some of its weaknesses. By integrating the current PRIN and DPaS material throughout all four years of the curriculum through the development of themes, we will ensure that the foundational sciences are better integrated into the clinical context. By fostering greater integration between the current FMED blocks and disaggregating this FMED content across all four years, students will have the opportunity to experience a spiral curriculum where material is revisited with increasing depth and breadth.

### **5) *Who will develop the content?***

The curriculum design has now been handed over to the larger group that currently manages the curriculum. This group of faculty and staff have a broad experience in delivering the current curriculum and are best situated to determine the next steps and appropriate sequencing in the implementation of the new design. New governance structures are being developed to better support the effecting delivery of the new curriculum design.

### **6) *I hear we will use a case presentation model for the new curriculum—how does this work?***

By deriving a list of 100-150 clinical presentations, the foundational sciences, clinical skills and clinical experiences that all medical students will have can be organized and developed. Foundational science learning can be attached and driven and contextualized by these clinical presentations. These presentations can be grouped into three categories: symptom presentation, disease presentation and health problems. Symptom presentation would include, for example, abdominal pain or shortness of breath and would primarily be addressed through virtual patients. Health problems would include, drug

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overdose or suicide in a particular community and would also be addressed through virtual situations. Disease presentation such as follow up of a diabetic patient or hypertensive patient or the management of depression would be addressed primarily through real patients. The importance of learning in the context of real patient encounters will be realized in the new curriculum as students will have a significant proportion of their learning in clinical locations, seeing real patients from the first weeks of medical school through generalist and specialist settings.

### **7) *Why clustering?***

Patients don't present in real life in the pulmonary block. They present with a variety of presentations and symptoms in a variety of settings. On the other hand, faculty and students also need signposts as to where they are in the curriculum so as to best organize their teaching and learning. Disaggregating and clustering our current FMED body system structure allows integration across body systems but will still allow students and faculty to organize material in a structured manner. The material in each cluster will be guided by the concept of complexity. The first cluster will be basic presentations followed by complicated presentations and finally complex presentation. As students and faculty move through these three clusters, cueing of what system or group of systems the patient problem(s) is/are based in will be reduced (high cueing to moderate cueing to minimal cueing through the first 18 months of medical school). Thus in the basic presentation cluster students will know that the virtual cases they are working on are from the cardio-resp-renal-blood cluster (perhaps cued to cardiac causes of shortness of breath) but as they progress through the curriculum and reach the complex presentation unit, a virtual patient with shortness of breath may have multiple interacting etiologies. By clustering by body systems in the early presentation blocks (i.e. Cardio-Resp-Renal-Blood--CRRB) and by broader presentation in the later presentation blocks (i.e. complex), curriculum leaders will be required to collaborate to ensure appropriate integration of their material with other systems.

### **8) *Where's the spiral?***

Students will revisit material in the three presentation clusters (basic, complicated, complex) and will experience a spiral curriculum through this structure where concepts are reinforced with increasing depth and breadth in a mindful and sequenced manner. The foundational science themes that run through these clusters will be carried through into the clerkship. By clustering our current body systems (i.e. CRRB), in all three presentations initially (basic, complicated, complex), the transition to a more integrated curriculum will be allowed to develop over the coming years thus allowing a smoother transition to this new model of teaching and learning. After we disaggregate and cluster the elements of FMED into these three clusters (basic, complicated and complex) we can then reduce clustering in the second (complicated) presentation unit and remove clustering in the third (complex) presentation unit.

### **9) *What are the themes all about?***

A set of themes (topics or threads) that encompass the foundational sciences that in turn support clinical care of patients are being developed. These include the broad areas such as diagnostics, therapeutics, populations, and health systems. By explicitly stating that each case presentation (virtual or real) has a subset of these threads attached to it we can ensure that at the end of a student's training

## Curriculum Design Frequently Asked Questions

they have logically and sequentially learned the foundational sciences that underpin the practice of medicine at an appropriate level for a graduating medical student.

### **10) *What sort of learning will students do during the week?***

In addition to seeing real patients 1-2 half days a week, students will also be engaged in clinical skills, labs, small group, large group and self-learning. It is expected that case based learning will be utilized in addition to a range of other interactive group learning activities. Small group activities will allow students to engage in small group collaborative learning. These groups will prime students for clinical experiences, ask them to bring their clinical experiences and the attendant sciences learning back to the group, encourage them to compare and contrast concepts (for deeper learning and to ensure that foundational science concepts are applied across cases) and to allow students a venue for concept clarification.

### **11) *What is an ALC and what role will it have in the new curriculum?***

Academic learning communities will be geographically connected communities of learners and teachers. For example the community of New Westminster could be defined as an ALC. Each ALC will contain approximately 32 students in each year of the curriculum (for a total of approximately 128 students over four years). Most of a student's learning will occur within their ALC. ALCs will be supported by Clinician Advisors who will provide and guide the education of eight students in each year within an ALC. Coordination of the Clinician Advisors will ensure the learning of the entire cohort 32 students in any one year will be appropriately supported. The ALC will also provide a focus on student identity formation and facilitate the feedback of students and the curriculum. By organizing students' clerkship experiences within an ALC, greater integration of clerkship activities will be facilitated and longitudinal clinical experiences may be developed. In an effort to link students across ALCs with similar groups of interests, virtual ALCs will be constructed around key topics (e.g. global health, clinical scholar)

### **12) *What will these Clinician Advisors do?***

Clinician Advisors are individuals who are experienced clinicians with experience and enthusiasm for the education of medical students. Each Clinician Advisor will support 8 students in each of the 4 years within their ALC. Clinician Advisors will provide a significant amount of appropriate teaching and support of medical students within their ALC—specifically their 32 students. Thus Clinician Advisors support the concept continuity of teaching. Small group facilitation, clinical skills, identity formation sessions, clinical experiences and portfolio guidance are a few of the potential activities a Clinician Advisor may engage in. A team of teachers may develop within an ALC that will support students and work with the Clinician Advisors to support student development and learning.

### **13) *Where's the flexibility?***

Flexibility is incorporated within the four year curriculum. Flexibility will be found in two realms: flexibility in how students learn and flexibility in what they learn. Flexibility in how students learn will be captured by providing students a range of learning activities in order to acquire content (i.e. lectures,

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small group learning, podcasts and real and virtual patients). Flexibility in what students learn will be found in the clear or open space. This clear or open space will be experienced within curricular units (i.e. not shown but smaller distributed segments) and in discrete blocks between curricular units that are of 3-5 weeks duration in the curricular design. These larger blocks will be called ExCEL Space, (which stands for: Extra Curriculum for Enhanced Learning). This clear or open space, both in dispersed and block segments, codifies flexibility and allows students address areas of need, to engage with communities and to aspire to excellence. This space will also give student an opportunity to reenergize and rekindle their passion and motivation throughout the program by allowing those students who have achieved the competencies required to engage in areas of interest. ExCEL space will be both constrained by curriculum rules to guide students to an appropriate range of behaviours as well as provide unconstrained time periods to allow maximum creativity with responsibility.

### **14) *What will the clerkship look like?***

Following the transition to independent clinical learning (where students will be prepared to function effectively in the clerkship while being efficient learners), a 21 month clerkship will begin. Within this clerkship there will be holidays and ExCEL space (~3months) and electives (~6 months). While there is overlap of clinical years, there is not any additional time in required clerkship rotations (12 months). Since the clerkship will be based within an ALC, there will be greater ability to fashion a clerkship within the ALC to take advantage of the particular strengths and attributes of the ALC. Sites will be able to arrange their ExCEL space and electives to balance student needs with the site's needs. Pedagogical principles and practicalities will be better addressed with local control of scheduling—for example pediatrics could be organized around outpatient clinics one afternoon a week within a particular ALC if local conditions supported/dictated this. Scholarship opportunities and the foundational science themes will continue from the pre-clerkship years as space has been created for this to occur. Clerkship specific and more general clerkship academic learning (including the continuation of case presentations) will be supported by this weekly academic day.

### **15) *What is the purpose of the transition blocks?***

The transition blocks offer students a guided introduction to the learning styles, skills and tools they will need to help transition them from one specific phase of the curriculum into the next. Three major transitions will be addressed: entry to medical school, transition to independent clinical learning and transition to residency. Addressing each of these transitions will be critical to student success, comfort and efficiency in the next phase of their learning. Transition to medical school will focus on what being a doctor is through guided clinical experiences as well as the learning methods that may be novel to incoming students. Transition to independent learning will allow both consolidation and exploration of attitudes, skills and knowledge to support student success in the clinical environment. Students in this transition will be exposed to clinical experiences but will have less responsibility than that expected in the clerkship so that they can better prepare for this next phase of independent learning. Transition to residency will recognize that in early March, students receive their CaRMS match. General and specific clinical and non-clinical experiences within and outside of their chosen residency track will be provided to both support student preparation for residency and to ensure UBC produces a broadly competent medical graduate.

### **16) *How does assessment fit into all of this?***

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The assessment and curriculum design working groups are working together to inform each other's work. Assessment will involve both formative and summative assessments. Portfolios will also be integral in the new curriculum and the Clinician Advisors will likely have a central role in the management of these evaluation tools.

### **17) *How much will this cost and is there money to do this?***

Designing the curriculum is an iterative process. We are now estimating costs attached to this new model of teaching, learning and assessment. By doing things differently we expect cost savings to be achieved that will be able to be utilized in delivering new and innovative elements of this new design.

### **18) *This seems like huge change – how are we going to do this?***

Over time and in phases the curriculum renewal process and current curriculum management process will be aligned/ amalgamated so that those who currently deliver the curriculum will be involved in the next stage of implementation. We have been mandated and directed to revise the curriculum from a number of sources: the accreditation bodies, external reviewers, FOM leadership, and last but not least our faculty and students. We have been told that it is time to change our curriculum to meet the needs of our changing clinical and educational environments. The UBC MD program is comfortable with change. Over the past decade there has been significant change—we have moved from 128 to 288 students on four sites while engaging a new and wide range of students, teachers and staff as well as patients and communities. While a number of our proposed changes are innovative, there many schools across North America and beyond that have undergone major curriculum reform and UBC's recommendations are in line with those changes seen at other schools.

### **19) *What has changed and what has stayed the same?***

As previously noted, PRIN is now integrated across the four years of the curriculum. FMED has been realigned to support spiral learning. DPaS is now integrated and the content recognized as a component of the foundational science that supports clinical practice. Clinical skills will be redistributed within the basic, complicated and complex rubric to encourage spiral learning of this important skill. The family practice continuum will continue to support community clinical experiences but will be integrated more effectively in the curriculum. The curriculum will be organized around ALCs and there will be attention to transitions and ExCEL space. While some of these changes are significant, the next step of curriculum design and implementation will be to determine how we should best move forward.

### **20) *What are the next stages in the curriculum design process?***

The design process has been carried out in order to produce a high level structure. This structure captures the essential elements of the working groups, external and internal stakeholders and best practices from the literature. This design has been presented to 20 groups comprised of over 150 individuals as well as providing the focus of the Undergraduate MD Retreat. In addition there have been a large number of virtual presentations of this new design. The next step in the renewal process is to implement this new design. This will be carried out by a broader group that includes a range of faculty and staff that deliver and manage the current curriculum. Many of these individuals who will

## Curriculum Design Frequently Asked Questions

lead and participate in the next step of implementation have either been involved in the design process or have been involved in the consultation process. We will also seek participation of individuals in this implementation process that have not had significant input in the design process up to this point. It is expected the current curriculum management structures and process will be modified to support the new design. In addition, feasibility, cost and a stepwise process to implement the design will be developed and supported by individuals directly involved in delivering the curriculum.

### **21) *What sort of feedback have you received during the consultation process?***

People have been very supportive of the new design. Generally people want to see greater definition of the curricular elements in the new design to better understand the implications of the new design for their current work and how their current activities and content will fit within the new curriculum. In addition people are keen to see an assessment of the monetary and human resources needs of this new curriculum. Students have been particularly supportive of this new design. Most criticism by both students, faculty and staff have been related to them wanting to get a sense of the feasibility of some of the design features as well as wanting greater detail on the what learning activities they will be responsible for in the new design. These requests are appropriate and logical and will be addressed as next steps as we move forward into the implementation phase.

### **22) *If we make these changes how will we know if things are on the 'right' track?***

The Evaluation Studies Unit has been asked to build in appropriate feedback loops now that we have a basic structure of the curriculum design in place. As with any complex and adaptive system such as a distributed medical curriculum, it will be incumbent on us to determine what is working well in the new curriculum and what needs improvement in order to produce the best graduates to succeed and serve the health care needs of the people of British Columbia.

## Curriculum Design Principles

### Preamble

This list of design principles and associated features has been developed by the curriculum design group. These design principles are to both frame the current curriculum design as well as provide a touchstone for assessing what is in and out of scope as we further define the emerging curriculum design for the MD program. This list of design principles is but one document among others that support and define the mission, goals and objectives of the new MD program

These design principles assumes that students admitted to the UBC MD program will have the appropriate prerequisite experience and education as well as understand the values and intent of the program. UBC is committed to admitting students who have demonstrated an understanding of and commitment to social responsibility. Successful applicants will be academically competent to undertake and master the learning activities expected of them in this new curriculum. UBC will select learners who are curious and have demonstrated this quality by exploring a range of educational and social activities in a variety of settings.

### Principles

- **Social Responsibility:** Social responsibility and accountability frame the course content, learning activities and assessment of learners. We will seek opportunities to facilitate student engagement and partnership with diverse communities to enhance their understanding of their responsibility to their patients, community and society. Students will be expected to be culturally competent in their interactions with patients.
- **Competency-Based:** Learning and assessment will be focused on the achievement of competencies. Attention to defining, teaching and assessing core competencies will be foundational to the medical curriculum. The achievement competencies will be organized around student experiences. This student centred approach will recognize the development that students will undergo during their time in the program and the curriculum will be aligned with this development (academic, experiential, social, etc.). Students will be given opportunities to address skill deficiencies and to engage in supplementary activities to allow aspiration to excellence. The organization of the curriculum will deliberately build on knowledge and skills in a spiral fashion with increasing breadth and depth as each student achieves clear milestones on their way to achieving the competency requirements of the program. Attention to key transitions in a medical student's education will support the integration of competencies as students attain increased levels of clinical responsibility.

- **Continuity:** Academic Learning Communities (ALCs) will be a key organization and philosophical longitudinal element in the curriculum. ALCs will support continuity of student interactions with teachers in order to promote individual student development and achievement. Continuity of student interactions with patients will facilitate students' understanding of the patient experience. The spiral curriculum will support the progressive development of student learning by ensuring students are exposed to experiences and learning of major themes throughout the 4 years. ALCs and attention to key transitions as they will support the professional identity formation and the developmental needs of students move through the curriculum. UBC is committed to fostering the recognition, understanding and demonstration of the highest standards of professionalism as demonstrated by caring for patients, colleagues, and self. Clinician Advisors will support students in an ALC and these mentors will be a key element in ensuring continuity of teacher interactions, assessment and student development.
- **Integration:** Integration will be a hallmark of the curriculum with the foundational sciences (e.g. diagnostics, therapeutics, populations, and health systems) and clinical learning informing each other in all aspects of the curriculum across all four years. Student interactions with real and virtual patients will drive student understanding and integration of the foundational sciences underpinning patient care. Case-based learning will be integrated across all four years. Careful attention will also be paid to logistic integration (the way the curriculum is planned and implemented) and affective integration, the way students' identities, attitudes and behaviours are integrated with those of the healthcare professions.
- **Scholarship:** All students will develop a foundation of scholarly ability and inquiry during their medical training to ensure students will be able to integrate scholarship into their practice as consumers of scholarly work. In addition, a scholarly focus will support students to engage in more focused pursuits to support their development as producers of scholarly work in medical school and beyond. A scholarly foundation and options for scholarly excellence will be a component of the curriculum design.
- **Interprofessional Education:** Increasingly physicians are working in teams with other physicians, with other health care professionals and with other providers of care. To support students learning within this environment and to prepare physicians to practice in this environment, interprofessional education will be integrated into the curriculum design. To support these features, team based/collaborative learning and interprofessional care of patients will be explicitly taught, experienced and assessed to allow students to effectively integrate into teams.

- **Health Care System:** Students and practicing physicians are members of and support the system of health care in Canada. An understanding of the health care system as well as the ability to analyze one's role within the health care system as a learner and a provider is critical to the effective care of patients. Explicit attention to both non-clinical and clinical exploration and understanding of the health care system will be taught and experienced to allow students to both understand and be effective members of the health care system.
- **Flexibility:** Flexible time integrated into the curriculum and flexible blocks of time at strategic intervals during the curriculum coupled with a flexible approach to learning will encourage learners to supplement and enhance their knowledge and skill development as identified by the student and/or the program. This learning will be guided and supported by a student's ALC and Clinician Advisor. Curricular delivery options across the distributed program will increase flexibility and accommodate students' individual learning style preferences. Students will be allowed to choose among different ALCs and/or opportunities such as integrated clerkship programs versus more traditional programs. Opportunities will also be available for students to pursue intercalated degrees.
- **Assessment:** An integrated assessment system that is programmatic, longitudinal, involves students and supports both individual and aggregate data collection will be critical to ensuring the curriculum supports the principles of design, the exit competencies and the mission, goals and objectives of the medical program. Assessment will support student development as well as assure that the program produces competent providers.

Attending to these design principles and associated features will support the development of a physician who is able to succeed in any residency position but more importantly will serve the health care needs of the people of British Columbia and beyond in a competent, compassionate and socially responsible manner.