

## Faculty Adequacy Model Documentation

OSU-COM has sufficient and appropriately trained faculty to meet its mission and vision. The faculty adequacy model is designed to meet the mission and vision of OSU-COM. The mission and vision of the OSU-COM can be found at the following link:

<http://www.healthsciences.okstate.edu/about/missionvision.php>

A faculty adequacy model is necessary to determine if the COM has faculty to meet the mission and vision of the school. The following methodology was used to calculate the faculty adequacy model.

Assumptions for the OSU-COM faculty adequacy model include the following:

- The definition of a full time faculty load is based on best practices
  - Our full time load is 1800 hours/year
    - (40 hours/week x 52 weeks/year) – Vacation & holiday hours = 1800 hours/year
- The definition of Clinical Adjunct Faculty: These positions are comprised of physicians, osteopathic and allopathic, non-university employees that provide student medical education and clinical experience throughout the student’s academic career; classroom, clinical skills training and small group activities primarily in the 1<sup>st</sup> and 2<sup>nd</sup> years and more emphasis on clinical experience and teaching at the bedside during the 3<sup>rd</sup> and 4<sup>th</sup> years.
- Annual evaluations are utilized full time faculty to provide actual FTEs for:
  - Teaching, Research, Service/Outreach, and Administration
- Site availability is utilized to provide student rotation capabilities

The process for calculating the faculty adequacy model follows the following steps:

Step 1. Determine the distribution of faculty by category (Biomedical and Clinical).

- a. These faculty numbers are available from the office of Academic Affairs.
- b. Our calculations for Step 1 are as follows:

Table 1 shows the distribution of tenure track and clinical-educator track faculty for both groups of faculty. There are 25 biomedical and 25 clinical tenure track faculty. In addition, there are 59 clinical-educator track faculty and 560 clinical adjunct faculty members.

*Table 1: Faculty Distribution*

Faculty	Tenure Track	Clinical-Educator Track	Total
Biomedical	25	-	25
Clinical	25	59	84
Adjunct			560*
		Total	669

\* Approved adjunct faculty as of 5/27/2016

Step 2. Determine the FTE for Biomedical and Clinical faculty.

- a. These faculty numbers are available from the Office of Academic Affairs. It is assumed that 1 FTE includes teaching, research, and service/outreach and in some cases administration
- b. Our calculation for Step 2 are as follows:

The full-time faculty equivalents are updated on an annual basis during each faculty member's annual review. Table 2 shows a summary of this data. Data is recorded in the 5 categories shown. As shown in the solid orange rectangle, the biomedical and clinical faculty devotes 30-34% of their time for teaching. The column highlighted by the dashed orange rectangle represents the FTE for research. The biomedical faculty devotes significantly more time to research: 39% vs. 13% for clinical faculty. These data are used to determine instructional capacity and research capacity. The numbers in the table are listed as the percent of total FTE for each category. The sum of each row is 100%.

Table 2: FTE for Faculty

Faculty Type	Teaching	Research	Service/Outreach	Clinical	Administration
Biomedical*	34	39	16	1	10
Clinical*	30	13	8	27	22

Step 3. Determine the number of faculty hours for instruction (instructional capacity) in the medical and graduate programs.

- a. The calculation for instructional capacity follows best practice:  
 (Number of faculty) x (Full-time load) x (FTE for teaching)
- b. Our calculation for Step 3 are as follows:

Table 3 shows faculty instructional capacity. Faculty instructional capacity is highlighted in orange. There are 15,300 hours available for biomedical instruction and 45,360 hours available for clinical instruction based on our model and full time equivalents assigned to each faculty member.

Table 3: Instructional Capacity\*

Faculty	Number	x	Full time Load (Hours)†	x	%FTE	=	Instructional Capacity
Biomedical	25	x	1,800	x	.34	=	15,300
Clinical*	84	x	1,800	x	.30	=	45,360
Total							60,660

\*400 clinical adjunct faculty participate in the instructional program as needed and paid on an hourly basis

Step 4. Determine faculty adequacy for teaching.

- a. The calculation of teaching adequacy is determined by subtracting the number of hours of teaching in the medical and graduate programs from instructional capacity
- b. Our calculation for Step 3 are as follows:

Taking instruction capacity from Table 3 shown in the solid orange rectangle, and subtracting the total number of hours required to deliver the medical and graduate curriculum you end up with positive numbers (see Table 4 below) shown in the column highlighted in dashed orange. This demonstrates we have surplus faculty time devoted to teaching. The hours for the medical curriculum were originally taken from Tables 10 and 11, page 21 of the COCA approved substantive change document. This data was recently reviewed and updated to include changes in the medical program since the new curriculum was implemented (see Table 6 at the conclusion of this document). It is important to note that the clinical adjunct faculty hours available for instruction were not included in Table 3. This is due to the fact that this faculty category does not have required FTE for medical instruction. The clinical adjunct faculty are engaged with OSU-COM and actively participate in medical instruction as needed and are paid for classroom teaching on an hourly basis. The clinical adjunct faculty currently provide 11,792 hours for medical instruction in the first two years of the curriculum. Therefore, the 45,360 hours show in table 4 for clinical instruction capacity underestimates the actual number of clinical hours available for instruction at OSU-COM because it does not include hours contributed by the clinical adjunct faculty. The model was built this way to demonstrate that the first two years of the curriculum could be delivered by full time faculty at OSU-COM.

In conclusion, our faculty capacity for teaching exceeds the hours required for delivering the medical curriculum. Therefore, there are sufficient faculty for medical instruction in years 1 & 2.

Table 4: Faculty adequacy for instruction

	Instruction Capacity*	-	(Medical <sup>†</sup>	+	Graduate <sup>‡</sup> )	=	Additional Instruction Hours
Biomedical	15,300	-	( 6,129	+	5,000 )	=	+4,171
Clinical	45,360	-	( 18,944	+	0 )	=	+26,416

Step 5. Determine Clerkship Adequacy in Years 3&4

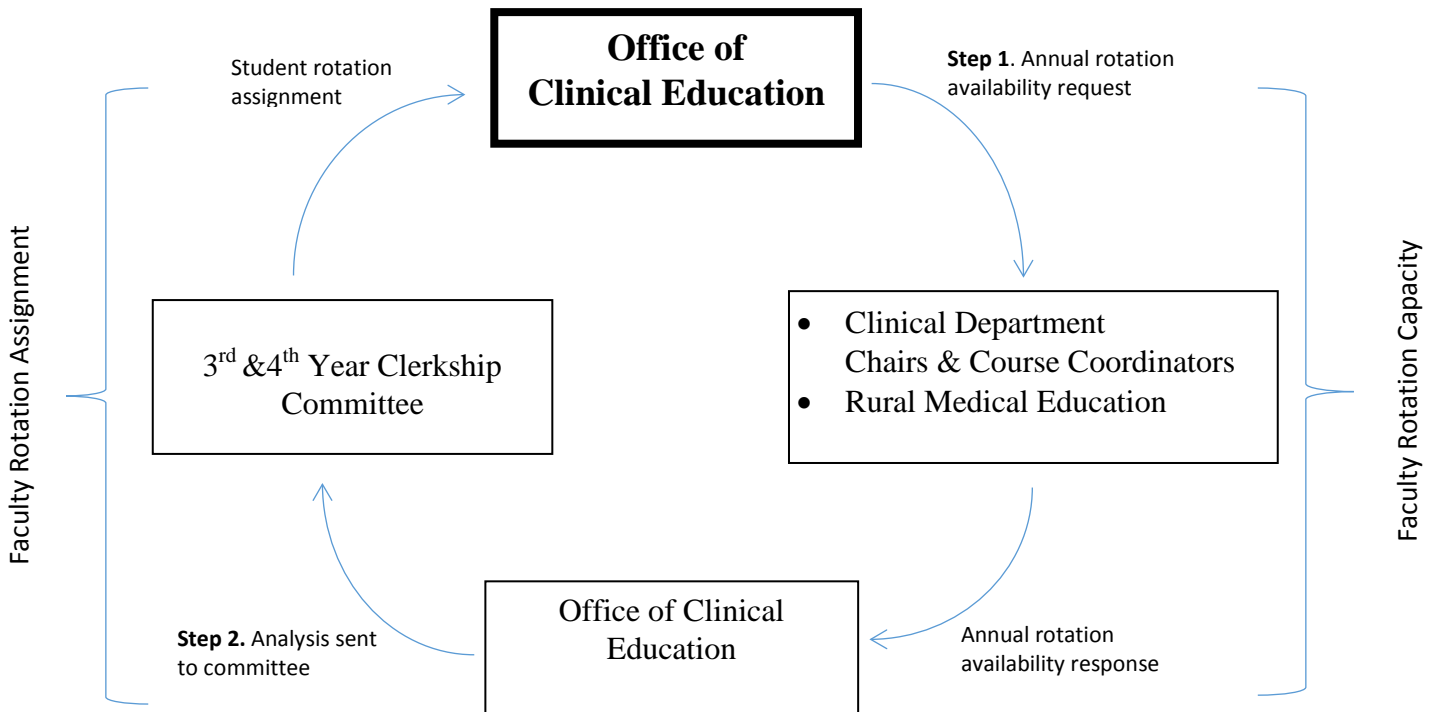


Figure 1. Steps in clerkship adequacy model

Step 5a. Faculty availability for Years 3&4

The Director for Clinical Education announces the timing, target, and deadline for collecting availability from our affiliated clinical education sites to the clinical course coordinators. Clinical course coordinators contact the affiliated clinical education sites for their rotation availability in order to determine the maximum number of students that can be scheduled at the site, and when those rotations can, and cannot, be scheduled. Through this process, each affiliated clinical education site determines student volume and distribution based on their assessment of available resources and capabilities. OSU-COM does not schedule more than the maximum number of students for any affiliated clinical education site.

#### Step 5b. Assessment of Faculty and Sites for Years 3&4

The adequacy of student numbers for required rotations at our affiliated clinical education sites is also assessed during the required annual site visits. This process ensures that each site has the capacity (resources) to handle the student rotations and that the students will have a quality experience at each site. During the preparation for each visit the Office of Clinical Education and the clinical course coordinators construct a summary report that includes site-specific student performance on COMAT and departmental exams that are compared with the overall performance of the entire class, student responses to the required evaluation of the rotation, and student-submitted comments. Summary reports are formally presented during each required site visit. The clinical course coordinators also collect and document information regarding learning resources and site strengths and weaknesses, and they are required to address any/all questions, comments, and concerns.

#### Step 5c. Faculty Adequacy for Years 3 & 4.

Current class size is 115 students. Therefore, for year 3 of the curriculum, a minimum of 1,495 student rotations are required (115 students x 13 rotation blocks/year = 1,495 student rotations). For year 4 of the curriculum, the minimum number is 1,035 student rotations (115 students x 9 rotation blocks/year = 1,035 student rotations). To provide a safety factor for students repeating rotations, OSU-COM plans for the possibility of 170 total students rotating through the system. As a result, we have a maximum capacity of 2,210 student rotation sites for year 3 and 1,530 for year 4.

OSU-COM has 25 tenure-track clinical faculty members, 59 educator track clinical faculty and over 560 clinical adjunct faculty members. OSU-COM regularly uses only 200 clinical adjunct faculty members to meet the maximum student rotation needs. This leaves an excess of clinical adjunct faculty members to meet any additional needs. Therefore, OSU-COM has adequate faculty to meet the educational needs of the Years 3 & 4 clerkships.

#### Step 6. Determine faculty adequacy for research.

- a. The calculation for research capacity follows best practice:  
(Number of faculty) x (Full-time load) x (FTE for research)
- b. Our calculation for Step 6 are as follows:

Faculty research capacity is determined by the same method used to determine instruction capacity. Research capacity (Table 5) shown in the column highlighted in orange. There are over 17,000 hours/year allocated for research by biomedical faculty and approximately 6000 hours/year for clinical faculty. These data support the conclusion that our faculty has adequate hours for research. Evidence to support this comes from our research productivity. Examples of this evidence are listed below.

- Approximately 31 faculty members are actively engaged in research
- The OSU-COM Office of Research manages research grant and contract funds from various sources (local, state and federal)
- Currently, six faculty members have OSU Office of Provost Interdisciplinary Research grants and/or internal research funding
- *Web of Science* H-index: 46% of faculty published articles and manuscripts between 2007 and 2014

*Table 5: Adequacy of research capacity*

Faculty	Number	x	Full time Load (Hours)†	x	%FTE	=	Research Capacity (Hours)
Biomedical	25	x	1,800	x	.39	=	17,550
Clinical*	25	x	1,800	x	.13	=	5,850
						Total	23,400

In conclusion OSU-COM has sufficient faculty to meet the educational and research mission of the college. This data has been submitted and approved by the Council of Deans.

Table 6: Summary of Faculty Teaching hours required to teach the first two years of the curriculum

Course	Faculty Hours			Total Hours
	Biomedical	Clinical	Adjunct	
<b>Year 1 Fall</b>				
Osteopathic Manual Medicine I (2)	0	590	1040	<b>1630</b>
Developing the Physician I (4)	100	292	564	<b>956</b>
Clinical Anatomy (6)	3231	80	0	<b>3311</b>
Foundations in Medical Biochemistry (2)	220	0	0	<b>220</b>
Foundations in Medical Cell Tissue Biology (2)	220	0	0	<b>220</b>
Foundations in Medical Genetics, Molecular Biology & Development (3)	330	0	0	<b>330</b>
Foundations in Medical Immunology (1)	110	0	0	<b>110</b>
Foundations in Medical Pharmacology (1)	110	0	0	<b>110</b>
Foundations in Medical Microbiology (1)	110	0	0	<b>110</b>
<b>Year 1 Spring</b>				
Osteopathic Manual Medicine II (2)	0	578	1052	<b>1630</b>
Clinical Skills I (3)	0	535	1344	<b>1879</b>
Developing the Physician II (4)	100	292	564	<b>956</b>
Cardiovascular System (4)	179	112	252	<b>543</b>
Hematology System (3)	138	83	180	<b>401</b>
Genitourinary System (3)	138	73	144	<b>355</b>
Respiratory System (3)	171	89	216	<b>476</b>
Focus Course in Lab Medicine (1)	0	108	0	<b>108</b>
Focus Course in Geriatrics (1)	0	108	0	<b>108</b>
<b>Year 2 Fall</b>				
Osteopathic Manual Medicine III (2)	0	578	1052	<b>1630</b>
Clinical Skills II (2)	0	530	1344	<b>1874</b>
Developing the Physician III (4)	100	292	564	<b>956</b>
Health Care Foundations (2)	0	216	0	<b>216</b>
Gastrointestinal/Hepatic System (3)	161	87	180	<b>428</b>
Nervous System (6)	266	149	180	<b>595</b>
Psychiatry System (3)	55	181	108	<b>344</b>
Focus Course in Rural Health (1)	0	108	0	<b>108</b>
Focus Course in Pediatrics (1)	0	108	0	<b>108</b>
<b>Year 2 Spring</b>				
Osteopathic Manual Medicine IV (2)	0	578	1052	<b>1630</b>
Clinical Skills III (2)	0	530	1344	<b>1874</b>
Endocrine System (3)	146	105	216	<b>467</b>
Musculoskeletal/Skin/Connective System (3)	98	91	180	<b>369</b>
Reproductive System (3)	96	145	216	<b>457</b>
Integrative Systems Review (2)	50	298	0	<b>348</b>
Focus Course in Addiction Medicine (1)	0	108	0	<b>108</b>
Focus Course in Obesity Medicine (1)	0	108	0	<b>108</b>
<b>Total</b>	<b>6129</b>	<b>7152</b>	<b>11792</b>	<b>25073</b>

Teaching hours required to deliver the first two years of the curriculum were originally prepared for the substantive change application (Tables 10 and 11, page 21 of the COCA approve substantive change document). This table has been updated to include changes in the medical curriculum since implementation started in 2013.