

## Program Description

### **“Master of Science in Anesthesia (MSA)” To Be Offered by The Indiana University School of Medicine at the Indianapolis Campus**

(Date Submitted: April 11, 2016)

#### 1. Characteristics of the Program

- a. Campus Offering Program: Indianapolis
- b. Scope of Delivery (Specific Sites or Statewide): The MSA Program will be a clinical/professional degree housed within the Department of Anesthesia, under the administrative constructs of and with a degree conferred by the Indiana University School of Medicine. All didactic and laboratory instruction will occur at the Indianapolis campus; while the majority of clinical instruction will also occur in Indianapolis, student learners will have the option to rotate at clinical affiliates including both IU Health and community partners throughout the state and nation for portions of their education.
- c. Mode of Delivery: Traditional didactic learning in the classroom, interactive distance learning, simulation based learning and clinical education
- d. Other Delivery Aspects: The students will also complete technical and non-technical skills training utilizing partial-task training and high fidelity simulation-based learning, and clinical rotations throughout the IU Health network, community partnerships and other sites.
- e. Academic Unit Offering Program: School of Medicine / Department of Anesthesia
- f. Anticipated starting semester: Fall 2017

#### 2. Rationale for the Program

- a. Institutional Rationale (Alignment with Institutional Mission and Strengths)
  - Why is the institution proposing this program?

Due to the aging population, the United States faces a shortage of more than 130,600 physicians by 2025, according to the AAMC<sup>1</sup>. A critical shortage of anesthesiologists also exists and is expected to persist well into the next decade. In the Midwest alone, 80% of facilities report the need for additional anesthesiologists and nurse anesthetists (NAs)<sup>2</sup>. Entry of sufficient numbers of physicians to address this need is unlikely without changes to the 1997 Congressional Balanced Budget Act that placed caps on federal funding for residency positions<sup>1</sup>. In addition, a recent study in 2010 by the Rand Health Corporation found that there is currently a shortage of approximately 3,800 anesthesiologists across the United States<sup>3</sup>. Assuming demand for services grows at the rate of 1.6 percent annually for anesthesia providers, the RAND study projects a shortage of close to 4,500 anesthesiologists by 2020. However, if the growth in demand is assumed to be 3 percent to account for the aging population, the RAND study projects a shortage of physician anesthesiologists as high as 12,500 by the end of the decade<sup>4</sup>. Therefore there will be an increasing need to employ physician extenders to meet the needs of our population for anesthetic care.

Anesthesia services in the operating room can be provided directly by a physician-anesthesiologist or can be provided by a physician-anesthesiologist directing anesthesiology residents or non-physician extenders. The non-physician extenders can be either nurse anesthetists or anesthesiologist assistants. Traditionally, anesthetic care within the State of Indiana has been delivered by a physician-only model of care with only limited use of an anesthesiologist-directed non-physician anesthetist model of care. A 2012 member survey by the Indiana Society of Anesthesiologists (ISA) of its members found about 73% of those responding favored having

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<sup>1</sup> AAMC. Physician Shortages to Worsen without Increases in Residency Training. Updated web page 2014. [https://www.aamc.org/download/153160/data/physician\\_shortages\\_to\\_worsen\\_without\\_increases\\_in\\_residency\\_tr.pdf](https://www.aamc.org/download/153160/data/physician_shortages_to_worsen_without_increases_in_residency_tr.pdf)

<sup>2</sup> Daugherty L, Fonseca R, Kumar K, Michaud PC. An Analysis of the Labor Markets for Anesthesiology. 2010 <http://www.rand.org>

<sup>3</sup> [http://www.rand.org/content/dam/rand/pubs/technical\\_reports/2010/RAND\\_TR688.pdf](http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR688.pdf)

<sup>4</sup> <https://www.asahq.org/For-the-Public-and-Media/Press-Room/ASA-News/RAND-study.aspx>

anesthesiologist assistants available as an alternative to nurse anesthetists as physician extenders for anesthesiologists. With the support and encouragement of physician leaders from the Indiana Society of Anesthesiologists, the Indiana General Assembly passed legislation authorizing licensure of AAs within the State of Indiana. Governor Pence subsequently signed this legislation into law on March 25, 2014 making Indiana the 17th jurisdiction to authorize AA practice.

At the Academic Health Center (AHC), faculty anesthesiologists are used in conjunction with residents to provide the anesthesia services necessary to support the patient care mission of the institution while providing clinical education to the residents. However, this traditional practice model is no longer typical with academic anesthesia programs now commonly utilizing anesthesia physician-extenders. In this setting, extenders free residents from clinical responsibilities to attend simulation sessions, conferences and other educational activities, while also facilitating compliance with duty hour regulations. Through their clinical work in operating rooms and procedural areas, anesthesiologist assistants (AAs) also serve as extenders to faculty anesthesiologists in these settings. By doing so, they free anesthesiologists to provide clinical care outside operating rooms in such areas as pain management, critical care medicine and perioperative care including the perioperative surgical home model thus improving patient care, provide service on hospital and medical school committees, and accomplish educational, research, service and professional development activities. The IU Department of Anesthesia projects an increasing utilization of physician extenders to support the clinical operations and facilitate the academic mission of the University.

In summary, the increased demand for anesthesia services for both surgical operations and diagnostic and non-surgical procedures due to the aging population, the limitations in growth of the number of anesthesiologists, the increasing medical practice of anesthesiologists in areas other than operative/procedural anesthesia, and the educational, service and academic duties of our faculty and residents support an increased use of physician

anesthesiologist directed non-physician anesthetists to provide operative and procedural anesthetic care. The expressed interest of anesthesiologists in Indiana and elsewhere for anesthesiologist assistants and their subsequent licensure creates a demand for these professionals.

The creation of an AA training program will allow training of these individuals in a way that maximizes their ability to practice in our specific environment, and will allow recruiting of the best and brightest, based on observation made during their time in the program. This program will also help to address the looming shortage of anesthesia providers in a cost effective way. The IU training program will become the 12<sup>th</sup> program in the US, with the closest programs being at The Medical College of Wisconsin (Milwaukee, WI) and at a distance of about 285 miles and at Case Western Reserve University (Cleveland, Ohio) at a distance of about 315 miles away thus filling both state and regional needs.

- What will completing this program prepare the student to do?

Anesthesiologist assistants (AAs) are highly skilled health professionals trained extensively in the delivery and maintenance of quality anesthesia care as well as advanced patient monitoring techniques who work under the direction of physician anesthesiologists to implement anesthesia care plans. All AAs possess a premedical background, a baccalaureate degree, and also complete a comprehensive didactic and clinical program at the graduate school level culminating in a Master's Degree. Anesthesiologist assistants work exclusively within the Anesthesia Care Team (ACT), as defined by the American Society of Anesthesiologists. There are approximately 2,100 anesthesiologist assistants practicing in seventeen states and the Veterans Affairs system. Anesthesiologist assistants are recognized as 'qualified anesthesia providers' by the Center for Medicare & Medicaid Services (CMS), Department of Veterans Affairs, and TriCare™. It is a testament to their education, skill, and training that these agencies authorize anesthesiologist assistants to provide anesthesia to the population's highest acuity patients.

The MSA Program at IU curriculum model will build off of the current training frameworks typical of current AA programs. The culmination of this curricular enhancement is a graduate prepared to practice optimally within a current surgical setting and aid institutional development of processes to improve the surgical care provided.

Graduates of the IU MSA program will fit seamlessly into perioperative environments and be educated to meaningfully participate in system wide development of future practice paradigms.

- How is it consistent with the missions of the institution and of the school/department?

Applicable to the proposed MSA program, a mission of Indiana University is "...to be a world leader in medical, professional, and technological education...and to provide graduate education for students throughout Indiana, the United States, and the world..." . The AA program will offer the opportunity for Indiana residents to enter a new educational program after obtaining a baccalaureate degree or its equivalent. Such a degree could be in any educational discipline provided the program-defined prerequisite coursework (similar in composition to "pre-medicine" ) is completed. At present, Indiana students seeking training as an AA must leave the state. Since graduates are more likely to practice in the state in which they received their training, this program will enhance retention of AA graduates, create new employment opportunities, and positively affect the options for the delivery of anesthesia care to Indiana citizens. Our admissions process will give preference to Indiana residents and applicants from a diverse background. Increasing diversity is an extremely high priority of the Department of Anesthesia.

- How does this program fit into the institution's strategic and/or academic plan?

Establishment of this AA program will further the IUSM strategic goal of being a national leader in population health management" through the creation of increased capacity of anesthesia providers in the state and promotion of interdisciplinary collaborations that focus on patient safety. This program will

directly address the projected shortage of anesthesia providers in the state by increasing the number of well-trained AAs capable of providing high quality care to Indiana residents. The development of a well-regarded AA program in the US through enhanced use of simulation, provision of bench to bedside translation, capitalizing on outstanding basic science and clinical resources at the Indiana University School of Medicine, and potentially introducing an option for attainment of joint (e.g. MBA, MPH, etc.) or terminal degree(s) (e.g. Ph.D., Ed.D. etc.) will further the IUSM goal of “training healthcare professionals who will lead the transformation of healthcare.”

- How does this program build upon the strengths of the institution?

From our review of comparable anesthesiologist assistant programs, we conclude that the best AA education programs are positioned in academic health centers with solid basic science and clinical faculty and an active research program. Through its medical school, IU possesses several strengths that can contribute to a strong foundation for the MSA program.

IU has a substantial infrastructure to support the needs of both students and faculty, including admissions, student affairs, financial aid, and a full-service library. Indiana University also has a long tradition of excellence in medical education and research. Seeking to expand upon that pedigree, the IU School of Medicine and the Department of Anesthesia seek to develop an Anesthesiologist Assistant (AA) educational program. The strong educational foundations of such a program will be grounded in a team approach to anesthesia patient care, wherein a physician anesthesiologist concurrently supervises up to four anesthetists (anesthesiologist assistants and/or nurse anesthetists), up to two residents-in-training or a resident-in-training and an anesthetist. As the ability of the anesthesiologist assistant to practice is predicated on the medical direction of an anesthesiologist, a successful AA training program at IU will by design integrate with the learning continuum within the Department of Anesthesia – a relationship paradigm for which IU is particularly suited. This Feasibility Analysis has identified key components of a high-quality AA training program including adequate access to clinical

education, high fidelity simulation, and unwavering support of the Department of Anesthesia. The MSA program will leverage resources already available at IU and add the necessary program administrative infrastructure to work within the Department of Anesthesia. The Master of Science in Anesthesia (MSA) Program at IU shall seek to establish clinical affiliation agreements with respected hospitals and medical centers in the immediate Indianapolis area and throughout the state. Building off of the pedigree of excellence in graduate medical education of the School of Medicine, the IU MSA Program will be recognized in the field as a leading program designed with the following characteristics:

- Innovative learning modules. The IU MSA Program will be positioned to lead the US in innovative AA education models to train students for the future of perioperative anesthesiology practice by integrating core learning goals with modules on quality improvement and patient engagement and education.
- Leverages strengths of IU's reputation and strength as a prominent academic health center and anesthesiology training department. A key advantage of the IU MSA program will be its access to strong anesthesia-focused basic scientists and a robust infrastructure for one of the largest and most successful anesthesiology residency programs that will be attractive to AA faculty and will help ensure scholarly activities for AA students. In addition, IU' s MSA students may have opportunities to complement their MSA degree with additional expertise through dual and joint degree programs that align with IU' s existing Master and Doctoral degree programs (e.g. master of science in clinical research).
- Leverages strengths of IU resources to build an innovative anesthesiologist assistant curriculum. IU offers world-class medical facilities, nationally regarded faculty, a state of the art simulation center, and broad abundant experiences in surgical care. Utilizing these resources, the MSA program at IU will build a curriculum that renders a graduate with well-rounded exposure to state of the medical care and the understanding of today's

culture of medicine and how their role within the anesthesia care team can enhance the medial care provided.

- Commitment to leverage IU existing strengths. The IU School of Medicine offers a robust institutional infrastructure. To that end, the MSA Program will work closely with Office of Academic Affairs, admissions, student services and other key areas of IU' s existing education infrastructure to leverage strengths and existing resources where applicable and appropriate.
- Describe the student population to be served

Pre-medicine Baccalaureate degree holders: These are people in undergraduate programs housed in accredited universities and colleges, whom by choice or circumstance have decided to pursue a career in the health care fields outside of medical school.

MCAT test takers: Targeting the population that takes the Medical College Admissions Test (MCAT) is a cost-effective and powerful way to market the program and the profession. The MCAT database allows input of favorable search criteria that can easily target potential student candidates. One example of using the database search parameters effectively is to identify those potential students whose MCAT scores are above the program' s minimum criteria for admission, but below the typical score that most medical schools accept. Targeting this population assures that the program' s admissions requirements are upheld.

Allied health professionals: A logical career pathway extension exists from other allied health fields into the AA profession. With fulfillment of required prerequisite course work, physician assistants, respiratory therapists, perfusionists, registered nurses and surgical assistants are all examples of professions whose educational background and job descriptions are consistent with the knowledge and skills necessary for a career as an anesthesiologist assistant.



- Include a brief description of the program, including total number of credits in the program

The curricular progression of the Indiana University MSA Program will provide a sequence of subjects leading to competence appropriate to the level of study and requirements for the degree as promulgated by the University and the Program's accrediting agency, the Commission on Accreditation for Allied Health Education Programs (CAAHEP). The MSA Program will be a continuous 7-semester model (including summer sessions) encompassing an estimated 104 credit hour combination of didactic and simulation-based learning as well as significant clinical experience in anesthesia and perioperative medicine (Appendix 10). A feature of the proposed IU program will be early introduction into the clinical setting with the goal of applying basic science and anesthesia-specific didactic knowledge. The MSA student graduate will achieve a projected average of 2,200 – 2,400 patient-contact hours throughout the twenty-seven month program, well exceeding the national standard of 2,000 clinical hours. The primary clinical training sites will be on the Indianapolis medical campus. Clinical experience will also be gained at IU Health-affiliated facilities and through strategic partnerships with community anesthesiology groups across the state. Additionally, each student is held accountable to reach benchmark performance measures.

Students will matriculate through a predetermined and sequential learning pathway that will include both basic science and clinical education. The educational sequence and structure will be organized to promote an integrated understanding of the connections between the basic science curriculum and clinical care.

Learning objectives and the evaluation process and criteria will be designed to engage students in an education that fosters growth in the following core competencies as defined by the Accreditation Council for Graduate Medical Education:

Patient Care: Identify, respect, and care about patients' differences, values, preferences, and expressed needs; listen to, clearly inform, communicate with

and educate patients; share decision making and management; and continuously advocate disease prevention, and wellness, including a focus on population health.

Medical Knowledge: Established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social behavioral) sciences and the application of knowledge to patient care.

Practice-Based Learning and Improvement: Involves investigation and evaluation of one's own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.

Interpersonal and Communication Skills: That result in effective information exchange and teaming with patients, their families and other health professionals.

Professionalism: Commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to a diverse patient population.

Systems-Based Practice: Actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

b. State Rationale

The *Reaching Higher, Achieving More* program calls for an education system that is student-centered, mission-driven, and workforce aligned. The proposed MSA program aligns perfectly with these goals in that it focuses on building student-learning constructs that are customized to the appropriate student learner and applicable to the competencies of the AA profession. The program will incorporate the latest learning technologies, from distance learning platforms to high-fidelity simulation-based training. Finally, the program intends to develop ongoing market research activities such that the clinical continuum is tailored to the ever-changing healthcare and anesthesiology landscapes.

c. Evidence of Labor Market Need

i. National, State, or Regional Need

As previously stated due to the aging population, the United States faces a shortage of more than 130,600 physicians by 2025, according to the AAMC<sup>5</sup>. A critical shortage of anesthesiologists also exists and is expected to persist well into the next decade. In the Midwest alone, 80% of facilities report the need for additional anesthesiologists and nurse anesthetists (NAs)<sup>6</sup>. Entry of sufficient numbers of physicians to address this need is unlikely due to the 1997 Congressional Balanced Budget Act that placed caps on federal funding for residency positions<sup>1</sup>. In addition, a recent study in 2010 by Rand Health Corporation found that there is currently a shortage of approximately 3,800 anesthesiologists across the United States<sup>7</sup>.

Assuming demand for services grows at the rate of 1.6 percent annually for anesthesia providers, the RAND study projects a shortage of close to 4,500 anesthesiologists by 2020. However, if the growth in demand is assumed to be 3 percent to account for the aging population, the RAND study projects a shortage of physician anesthesia providers as high as 12,500 by the end of the decade.<sup>3,8</sup> Therefore there will be an increasing need to employ physician extenders to meet the needs of our population for anesthetic care.

ii. Preparation for Graduate Programs or Other Benefits

The MSA Program at Indiana University will confer a Master of Science degree, which is the defined terminal degree for the AA practitioner and the requirement to enter the clinical workforce. AAs and AA students who wish to pursue a doctoral level degree in another discipline may be ideal

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<sup>5</sup> AAMC. Physician Shortages to Worsen without Increases in Residency Training. Updated web page 2014. [https://www.aamc.org/download/153160/data/physician\\_shortages\\_to\\_worsen\\_without\\_increases\\_in\\_residency\\_tr.pdf](https://www.aamc.org/download/153160/data/physician_shortages_to_worsen_without_increases_in_residency_tr.pdf)

<sup>6</sup> Daugherty L, Fonseca R, Kumar K, Michaud PC. An Analysis of the Labor Markets for Anesthesiology. 2010 <http://www.rand.org>

<sup>7</sup> [http://www.rand.org/content/dam/rand/pubs/technical\\_reports/2010/RAND\\_TR688.pdf](http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR688.pdf)

<sup>8</sup> <https://www.asahq.org/For-the-Public-and-Media/Press-Room/ASA-News/RAND-study.aspx>

candidates for recruitment to many doctoral level programs such as education, clinical basic sciences or medicine. A potential joint program with other IU Schools for awarding an MBA, M.Ed., or MPH degree could be pursued.

iii. Summary of Indiana DWD and/or U.S. Department of Labor Data

Anesthesia services in the U.S. are provided by approximately 40,000 anesthesiologists, 39,000 nurse anesthetists, and fewer than 3,000 AAs<sup>2</sup>. AAs hold the MS degree and are prepared to provide anesthesia in a physician anesthesiologist-led care team model, a model in which nurse anesthetists often practice. AAs are ideally suited to address the projected anesthesia workforce needs in Indiana and nationally. In fact, the American Society of Anesthesiologists is working together with the American Academy of Anesthesiologist Assistants to increase the number of AAs nationally. There are 114 accredited NA training programs graduating approximately 1,500 NAs per year and many of these programs are in geographic proximity to IU (6 in Ohio; 5 in Illinois; and 5 in Michigan)<sup>9</sup>. In contrast, there are only 11 AA schools in the country graduating approximately 230 AAs per year, with the closest comparable programs at Case Western Reserve University (Cleveland, Ohio) and Medical College of Wisconsin (Milwaukee, Wisconsin), located approximately 315 and 280 miles from Indianapolis, respectively. Thus, creating an AA program at IU would address the healthcare value proposition by increasing the availability of high quality anesthesia providers in Indiana while retaining the medical direction and immediate availability of a physician anesthesiologist to address clinical needs. This will be accomplished by development of a 28-month program that innovates through enhanced interdisciplinary and inter-professional collaborations, and community engagement.

3. Cost of and Support for the Program

a. Costs

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<sup>9</sup> Council on Accreditation. List of Recognized Educational Programs. 2014 <http://home.coa.us.com>

The main program development costs are those associated with construction and outfitting of the learning center, as well as faculty and staff overhead. Variable costs are those related to provision of didactic and clinical instruction. During the development period, approximately sixteen months from April 2016 - August 2017, there will be no tuition revenue, with Startup Costs estimated at \$1,400,000. First year revenue is generated solely from student tuition. The first year (FY2017) gross income total is \$444,627, which represents a matriculation objective detailed above. A pro forma has been developed, the highlights of which include:

- In a 'no-growth' matriculate cohort (at a consistent class size of 12 students), the MSA program is financially sustainable with profitability projected in Year 4 and break-even after Year 6 of operations. At this class size, the MSA program would be completely self-sustaining within the Department of Anesthesia.
- Assuming a conservative matriculate growth pattern to a maximum class size of 25 students, which is well within the clinical resources of IU, at Year 10 of operations, the program is conservatively estimated to return over \$6.4 million in accumulated cash return to the Department of Anesthesia.
- Program earnings before interest and taxes (EBIT) margin, once fully operational (after Year 2), will exceed 30%; after Year 3 ( 'break-even' year) and thereafter, the Program can project profit margin around 48-50%.
- The project is estimated to return positive cash flows in Year 3 of operations and will pay back all principle borrowings by the end of Year 5 of operations.
- The program, once operating, projects positive margin in the third year of operations and have a continuing conservative long term revenue growth projection of 4-5% per annum thereafter

- Projected roll-out economics assume 16 months of capital retained earning investment with no revenue

i. Faculty and Staff

Key personnel to ensure the success of the MSA program include the Program Director (a certified Anesthesiologist Assistant), the Medical Director (a board-certified anesthesiologist), and the Program Administrator. Upon approval of this program, a national search will commence to identify, interview, and recruit the best possible candidate for the Program Director position.

The Program Director reports directly to the Chair of the Department of Anesthesia and the Dean of the School of Medicine on all program business, when appropriate. He/she will keep the Department and University informed of all pertinent program information relating to the business and academics of the MSA program. Oversight of both clinical and classroom teaching are part of the Program Director's duties. The Program Director will ultimately be responsible for all decisions that relate to the daily operational functions of the program including clinical and didactic curriculum content, program budget, student admissions and matriculation, and student advancement. Along with the Medical Director, he or she will be the primary student faculty advisor and is responsible for oversight of the academic achievement and discipline of the Program's students. He or she will consult with the Medical Director in all of these domains when appropriate and will work with the Medical Director and administrative team to ensure quality of the educational program. The Program faculty and staff report directly to the Program Director. The final performance evaluations for these employees will be completed by the Program Director. The Program Director would hold an appropriate appointment within the IU School of Medicine.

William McNiece, MD will serve as Medical Director. Dr. McNiece, a graduate of and current Associate Professor of Anesthesia at Indiana University School of Medicine, has been an anesthesiologist in the

Indianapolis area for over 35 years, focusing on pediatric anesthesiology and serving in the Division of Pediatric Anesthesia at Riley Hospital for Children at IU Health. He is active within the local medical community, currently serving as Immediate Past President of the Indiana Society of Anesthesiologists, as well as at a national level as a member of the House of Delegates of the American Society of Anesthesiologists (ASA) and as an adjunct member of the ASA Committee on Anesthesiologist Assistant Education and Practice. Dr. McNiece is board certified in anesthesiology and pediatric anesthesiology, is meeting maintenance of certification requirements for both, and holds an active medical license in Indiana.

The Medical Director will be responsible for all decisions that correlate to medically related aspects of the program as described in the Standards developed by the Accreditation Review Committee for Anesthesiologist Assistants (ARC-AA). Those standards state that a physician anesthesiologist ensure that continuous and competent medical guidance for the clinically related program components is provided so that the AA students learn, develop, and practice the knowledge and skills necessary. The Medical Director will directly consult with the Program Director on matters relating to program budget, clinical and didactic curriculum content, marketing, student admissions, and general daily operational management. He will also be responsible for nurturing relationships with regional Department of Anesthesiology Chairs with the intention of developing a clinical education network. The Medical Director will serve as a national spokesman for the program and the profession. He will develop political alliances with other physicians and national organizations for the purpose of actively promoting the national stature of the program and the AA profession. Both clinical and didactic instruction is part of the Medical Director's duties. The Medical Director will hold an appropriate appointment within the IU School of Medicine.

**Program Administrator:** The Program Administrator is responsible for providing managerial and administrative leadership for all aspects of the educational program. He/she is responsible for providing leadership,

coordination and oversight for all student recruitment efforts and for administering the admissions process for the program. This person shall be accountable for (1) ensuring that the integrity of Indiana University standards of excellence are preserved, (2) management of all administrative aspects of the students in the program, (3) maintaining relationships and providing administrative guidance and support to affiliated hospitals and programs designed to maximize support for the program, (4) maintenance of all accreditation requirements, (5) assistance with development and implementation of program strategies and development plans, (6) maintenance of all budget aspects of the program, including defining, planning and initiating strategic initiatives developed by the program faculty, (7) acting as a national liaison for the purposes of promoting the program and the University, and (8) providing accurate database development, data collection and data management protocols.

Assistant Program Director: The Assistant Program Director will have both clinical and didactic education responsibilities. In the absence of, or inability to fulfill the duties of the Program Director, the Assistant Program Director would temporarily assume these responsibilities. The Assistant Program Director would hold an appropriate appointment within the School of Medicine.

Program Faculty: The Program shall recruit qualified persons to serve as faculty with the MSA Program. Faculty members may have clinical and/or didactic instruction responsibilities, further defined at the time of hiring. The program faculty will include physician anesthesiologists. Dependent on the current and future needs assessment of the AA student learner, program faculty may consist of a hybrid mix of disciplines, including but not limited to physician anesthesiologists, physicians in specialties other than anesthesiology, pharmacists, clinical researchers, PhD scientists, and anesthesiologist assistants. Faculty members will hold appropriate appointments within the School of Medicine.

ii. Facilities



As envisioned, the MSA Program at Indiana University will reside in approximately 3,000-3,500 ft<sup>2</sup> of office and learning space on the IU medical campus in Indianapolis. Centralized location of the facilities would allow for easy student access to the local clinical rotation sites as well as activities for student enjoyment, walking-distance access to public transportation, and affordable housing in the immediate surrounding area. In order to bring the students successfully through the curricular continuum, the faculty will use several education and assessment methodologies and the facilities will be designed with these methodologies in mind. Existing classroom resources are of ample size and layout to support all formats of didactic learning, including interactive distance learning. The IU students will use the ASA-certified Simulation Center at Fairbanks Hall to provide a hands-on, immersive environment to correlate the classroom instruction with hands-on clinical scenarios. Local hospitals and medical centers, including but not limited to IU Health affiliates, will be used for initial clinical learning experiences. Hospitals located elsewhere in Indiana or the nation may be used for second year student education.

Adequate learning facilities will be required for establishment of the IU MSA Program. Physical plant size varies amongst established programs based on host institution availability, but the below list encapsulates some of the needed elements of an effective learning space for AAs:

1. Five (5) office spaces suitable for the Program Director, Medical Director, Program Administrator, and other program faculty and staff.
2. Conference room large enough to accommodate a table for 8-10 people
3. Reception area with desk and seating for 6-8 guests
4. Student common area (should be large enough for two 4-person round tables, TV, refrigerator, and 4 computer work stations)
5. 2 simulation training rooms, plus a small observation/computer control room (entire simulation training area would occupy approximately 800-1,000 ft<sup>2</sup> of training space) - This requirement shall

be in addition to securing adequate time and space resources at The Simulation Center at Fairbanks Hall.

6. Adequate bathroom space at ADA specs
7. Classroom adequate to accommodate anticipated number of students

Within the physical plant facility of the MSA Program, the students should have 24/7-access to a student lounge area complete with computer workstations. When didactic classes are not being taught, the classroom will be designated as a 'quiet zone' so as to provide an area for student study. While the above list is comprehensive, local availability of space will dictate proximity of the various spaces to each other, but it is highly recommended that the facilities be located on the Indianapolis medical campus and within or adjacent to the Department of Anesthesia at the medical school.

iii. Other Capital Costs (e.g. Equipment)

Capital expenditures for the MSA Program will include office and classroom furniture, computer/IT and communication equipment for faculty and staff, and renovation/build out of the learning facilities. Avance Education Solutions, a program development consultant, has and will be utilized to develop the program. This company offers expertise in a wide range of areas related to development of anesthesiologist assistant education programs. Initial program costs will include Avance professional fees.

b. Support

i. Nature of Support (New, Existing, or Reallocated)

Total startup funds for the Program are estimated conservatively at \$1.41 million and retained earnings from the Department have been specifically allocated to all expenses. The Chairman of the Department of Anesthesia currently has \$500,000 in unallocated start-up funds. The Department also has over \$4 million in unrestricted reserves, more than enough to cover anticipated start-up costs.

The addition of the MSA program to the educational portfolio of IU will not negatively impact any current program, or the learning opportunities currently afforded the residents and fellows within the Department of Anesthesia. The learning continuum of the AA students is such that in the clinical setting the students are always paired with a qualified anesthesia provider and supervised by a physician anesthesiologist. Therefore, AA student learning is complementary to, not competitive with, that of residents and fellows in training at IU. In fact, anecdotal evidence supports that having AA learners within an anesthesia department positively impacts resident training in that it affords future anesthesiologists exposure to the Anesthesia Care Team model of practice as well as a direct clinical teaching opportunity. Furthermore, the presence of AA student' s facilitates achievement of the ACGME mandated competency of the resident as educator.

- ii. Special Fees above Baseline Tuition – none

#### 4. Similar and Related Programs

- a. List of Programs and Degrees Conferred

- i. Similar Programs at Other Institutions

Campuses offering (on-campus or distance education) programs that are similar:

The proposed MSA Program would be unique to Indiana University as well as to the State of Indiana. Though there are no programs training Anesthesiologist Assistants at IU or in Indiana, comparable programs in the mid-level healthcare provider space would include:

- Physician Assistant (PA): Indiana State University (Terre Haute, IN)
- Physician Assistant (PA): Butler University (Indianapolis, IN)
- Physician Assistant (PA): University of St. Francis (Fort Wayne, IN)

Physician assistant (PA) programs train to a more generalized practitioner as compared to the specialty-specific training curriculum of AAs. PAs are not trained to provide anesthesia and AAs are not licensed as PAs to

provide general medical care. Likewise, nurse anesthesia (NA) education is an advanced practice nursing curriculum not applicable to the same applicant pool or practice patterns.

ii. Related Programs at the Proposing Institution

- Physician Assistant (PA): Indiana University School of Health & Rehabilitation Sciences (Indianapolis, IN)

b. List of Similar Programs Outside Indiana

There are 11 AA educational programs in the country graduating approximately 230 AAs per year, with the closest comparable programs at Case Western Reserve University (Cleveland, Ohio) and Medical College of Wisconsin (Milwaukee, Wisconsin), located approximately 315 and 280 miles from Indianapolis, respectively

c. Articulation of Associate/Baccalaureate Programs

Not applicable

d. Collaboration with Similar or Related Programs on Other Campuses

The proposed MSA Program will be educationally supported by the Department of Anesthesia as an administrative unit of the IU School of Medicine. All admissions and enrollment, student services/affairs, financial aid, and degree conferral will occur under standing School of Medicine protocols. Didactic, simulation, and all clinical education will occur with the direct support of the Department of Anesthesia. Additionally, the Program Director and teaching faculty of the MSA Program will be hired by the Department of Anesthesia (with appropriate appointments through the School of Medicine), the Medical Director will be an appointed faculty member of the Department of Anesthesia, and anesthesiologists will participate in all phases of the MSA Program educational delivery.

5. Quality and Other Aspects of the Program

a. Credit Hours Required/Time To Completion

The MSA will be a graduate level program for Anesthesiologist Assistants. At the completion of the program, each student will earn a Master of Science in Anesthesia degree. The proposed MSA Program will be a contiguous 7-semester model encompassing an estimated 104 credit hour hybrid mix of didactic, simulation-based, and immersive clinical learning. A feature of the proposed IU program will be the foundation of early introduction into the clinical setting with an emphasis on basic science and anesthesia-specific didactic knowledge. Students matriculate through a pre-determined and linearly sequential learning pathway. In its entirety, this will be a clinically oriented degree program that provides for some elective clinical training and knowledge in the senior year. The degree will promote learning competencies and understanding of the importance of continuing education.

The MSA Program will be divided into two phases: (1) the 'Basic Science Phase' will be twelve (12) months in length and consists of basic science and clinically focused didactic courses, as well as clinical experience in operative and procedural anesthesia. The 'Clinical Phase' is sixteen (16) months in length and provides rotations in subspecialties of anesthesia. A student who enters the clinical phase has completed basic science and clinical medicine courses and is able to perform a history and physical exam, construct a well-crafted anesthetic plan, complete basic technical skills, and possess the rudimentary fund of knowledge to manage a basic anesthetic under the direction of a physician anesthesiologist

b. Exceeding the Standard Expectation of Credit Hours

The proposed MSA program will not exceed 120 credit hours.

c. Program Competencies or Learning Outcomes

The curriculum of the program is designed to achieve the following objectives:

1. Prepare professionally competent anesthesiologist assistants capable of
  - Administering physiologically sound anesthesia care under the direction of and with the immediate availability of a physician anesthesiologist

- Scientifically developing anesthesia care plans for a patient's individual needs
  - Functioning as a resource person in the appropriate areas
2. Prepare professionally committed anesthesiologist assistants capable of:
- Assuming responsibility for one's own actions
  - Continuing professional growth

#### Program Outcome Measures

As future anesthesiologist assistants, MSA students' outcomes are measured against the competencies established for the profession. In addition, MSA students will be expected to demonstrate the ability to provide safe and competent care through the perioperative continuum, communicate effectively, display critical thinking skills, epitomize professionalism in all clinical activities, and engage actively in lifelong learning. A specific set of outcome measures will be developed for the IU program through which matriculates can demonstrate competency in patient safety, anesthetic management, critical thinking, communications and interpersonal skills, and professionalism. Additionally, graduates will be encouraged to participate in continuing education activities to acquire new knowledge and improve his or her practice.

Standards will be established for each critical element of the curricular continuum and included in the student performance plan. Utilizing a set of customizable academic key performance indicators, the program will develop applicable standards and benchmarks for stages of the clinical education of the student.

#### Student Clinical Performance Goals

Each student will be expected to aspire to clinical excellence by attaining performance goals and standards set forth by the IU MSA Program, which will be created during the program development process. Successful completion of clinical goals should be measurable, thereby giving the student meaningful feedback concerning clinical performance. These clinical performance expectations are delineated giving consideration to the students' level of clinical

anesthesia experience. They are intended to provide students a way to evaluate their own performance, as well as guide the faculty/preceptors in the accurate, thorough, and objective evaluation of the AA student's clinical performance.

#### Requirements for Graduation

In order to be eligible for a degree from the Indiana University School of Medicine, and the MSA Program, it is required that all students shall complete each of the following objectives:

1. Successful completion of all academic courses and requirements for the degree
2. Satisfactory completion of the program of study
3. Satisfactory clinical performance as determined by the Program and Clinical faculty
4. Satisfactory discharge of all financial obligations to the University
5. Attend in person the rehearsal and commencement program at which time the degree is conferred.
6. Received recommendation for being awarded the degree Masters of Science in Anesthesia from the Program Director, Medical Director and approval by the Dean of the School of Medicine.
7. Special requirements:
  - a. Participation in a minimum of 2,000 clinical hours of direct patient care
  - b. Participation in a minimum of 650 anesthetics
  - c. Meet requirements for application to take the National Certification Examination administered by the National Commission for the Certification of Anesthesiologist Assistants (NCCAA)

#### d. Assessment

##### Assessment Modalities

The ability to demonstrate educational outcomes as the achievement of competency-based learning objectives provides evidence of preparing competent clinical practitioners who can meet the health care needs of the public.

Educational assessment will, therefore, be a key component of the MSA in

Anesthesia Program and is intended to:

- (1) Assess students' attainment of competency-based objectives;
- (2) Facilitate continuous improvement of the educational experience;
- (3) Facilitate continuous improvement of student performance; and
- (4) Facilitate continuous improvement of program performance.

The results of an assessment should allow sound inferences about what learners know, believe, and can do in defined contexts. The goal of the assessment methodologies established at the IU MSA Program should integrate several concepts with the end goal being a well-rounded and high-quality anesthesia provider.

The IU MSA program will develop an assessment framework that builds on the solid foundation of clinical excellence in the Program and introduces methodologies to evaluate students at many points throughout the curricular continuum. The program anticipated incorporation of assessment methods that are feasible to implement, will aid the student in directing their study efforts and will provide a comprehensive 'picture' of student progress.

#### Clinical Evaluation Process

The primary purpose of the evaluation process is to allow anesthesiologist assistant students to develop into competent, well-educated practitioners who display professional attitudes in all aspects of their work. Anesthesiologist Assistant students work in relative isolation from their peers, so it is particularly important that students receive timely feedback on their performance from the faculty and their clinical preceptors. The evaluation process is intended to assist students in recognizing their strengths and weaknesses, and provide suggestions on how to improve performance. This process is applied to all students, even those whose performance is already satisfactory.

The MSA program will integrate a daily formative evaluation instrument, as feedback from clinical instructors is vital to the education of the students as well as to the maintenance of a quality program. During rotations, clinical instructors are asked to complete an evaluation form daily that coincides with the student's



level of education in anesthesia. Upon completion, these forms are reviewed carefully and used to calculate semester grades, evaluate program curriculum and signal any distinguished performance or difficult areas for students.

The evaluation process would be based on a pre-established performance objectives and core competencies constructed during the program development phase. The essential attributes of a competent Anesthesiologist Assistant include character, clinical skills, knowledge, and patient care. The evaluation process also provides a mechanism for the Program to become aware of deficiencies in a student's performance and provide help to remedy those deficiencies. In the event that the student fails to improve to an appropriate level of performance, the evaluation process will also document lack of satisfactory progress.

e. Licensure and Certification

Graduates of the MSA Program will be prepared to sit for the national licensing exam administered by the National Commission on the Certification of Anesthesiologist Assistants (NCCAA). Subsequent to successfully completing the prescribed program curriculum, achievement of all prerequisites for graduation (as defined in Section 5c), and passing the NCCAA licensing examination, the MSA graduate will be prepared to apply for a practice license from the Indiana Medical Licensing Board.

f. Placement of Graduates

The proposed MSA program would prepare clinically competent anesthesiologist assistants for employment in Indiana and throughout the nation as mid-level clinical anesthesia providers. Anesthesiologist assistants (AAs) are highly skilled health professionals trained extensively in the delivery and maintenance of quality anesthesia care as well as advanced patient monitoring techniques who work under the direction of physician anesthesiologists to implement anesthesia care plans. Anesthesiologist assistants work exclusively within the Anesthesia Care Team (ACT), as defined by the American Society of Anesthesiologists. Anesthesiologist assistants are recognized as 'qualified anesthesia providers' by the Center for Medicare & Medicaid Services (CMS), Department of Veterans Affairs, and TriCare™.

g. Accreditation

Full accreditation of the program will require approval from the Indiana Commission for Higher Education (ICHE), the Higher Learning Commission (HLC), and the Accreditation Review Committee (ARC) for AAs. A self-study report for subsequent examination by the Accreditation Review Committee will be prepared, and an application for accreditation of the program by the Higher Learning Commission will be completed. All necessary documentation will be prepared in a timeline that is feasible and applicable to the defined process of the various approving entities. The HLC and ARC-AA both require a completed curriculum prior to granting accreditation, which will include course sequencing, course titles, and course descriptions. Based on our feasibility analysis, we anticipate that the AA program will meet or exceed all standards for accreditation. The HLC and ARC-AA have a history of working collaboratively with applicant programs to ensure compliance with all standards, policies and procedures. Completion of the program self-study and accreditation site visit will enable us to address any potential deficiencies for correction prior to the accreditation decision. In the unlikely event that the program does not achieve full accreditation (to date no program has failed to obtain initial accreditation), the application will be re-submitted after implementation of a corrective action plan. It is possible this could be done within the constraints of the present timeline for program implementation.

6. Projected Headcount and FTE Enrollments and Degrees Conferred

The proposed MSA program will have a goal of the admission of twelve (12) students in the inaugural class in August of 2017. Given the current and expected clinical learning opportunities within the IU Health network, the program will be able to gradually expand enrollment in subsequent years to meet market demand. It is not anticipated that the program will grow beyond a 25-30 student per class capacity at any time.

As a clinical/professional program preparing students to sit for the NCCAA national certifying exam, apply for licensure issued from the Medical Board and practice as an

AA, the degree conferred will be a Master of Science in Anesthesia from the Indiana University School of Medicine.

Below are the instructions for section 6 and comments for completion. The current numbers in the spreadsheet are placeholders only, put there by the University.

- Report headcount and FTE enrollment and degrees/certificates conferred data in a manner consistent with the Commission's Student Information System. The program anticipates twelve full time students per class with potential to grow as market needs, student demand and resources provide.
- Report a table for each campus or off-campus location at which the program will be offered  
The program will only be offered at the Indianapolis campus with clinical education occurring at IU hospitals, community hospitals and other designated clinical hospital affiliates.
- If the program is offered at more than one campus or off-campus location, a summary table, which reports the total headcount and FTE enrollments and degrees conferred across all locations, should be provided.  
N/A
- Round the FTE enrollments to the nearest whole number  
N/A
- If the program will take more than five years to be fully implemented and to reach steady state, report additional years of projections  
The program is a 28 month program. The program will then be at steady state at three years. Additional growth could occur after that time.

Provide the above in narrative form. The table below will be prepared by the Office of University Regional Affairs, Planning, and Policy for all degrees and for certificates with 30 or more credit hours.

The information is in the document and can be communicated to the

Office of University Regional Affairs when appropriate.

**6. Projected Headcount and FTE Enrollments and Degrees Conferred**

Date, 2012

Institution/Location: University XYZ at \_\_\_\_\_

Program: Program ABC

	Year 1 FY2012	Year 2 FY2013	Year 3 FY2014	Year 4 FY2015	Year 5 FY2016
<b>Enrollment Projections (Headcount)</b>					
Full-Time	6	12	18	18	18
Part-Time	12	24	36	48	60
<b>Total</b>	<b>18</b>	<b>36</b>	<b>54</b>	<b>66</b>	<b>78</b>
<b>Enrollment Projections (FTE)</b>					
Full-Time	6	12	18	18	18
Part-Time	6	12	18	21	24
<b>Total</b>	<b>12</b>	<b>24</b>	<b>36</b>	<b>39</b>	<b>42</b>
<b>Degrees Conferred Projections</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>18</b>
CHE Code: 12-XX					
Campus Code: XXXX					
County: XXXX					
Degree Level: XXX					
CIP Code: Federal - 000000; State - 000000					

## ***Appendix 1: Institutional Rationale***

The latest iteration of the strategic plan for the Indiana University School of Medicine can be found at [http://medicine.iu.edu/files/3912/9467/8788/strategic\\_plan.pdf](http://medicine.iu.edu/files/3912/9467/8788/strategic_plan.pdf)

The latest iteration of the strategic plan for Indiana University can be found at <https://strategicplan.iu.edu/doc/plan.pdf>

Links to the institution's strategic and/or academic plan or the plans themselves:

[IUPUI Core: Vision, Mission, Values & Diversity](#)

[Principles of Undergraduate Learning](#)

[RISE to the IUPUI Challenge](#)

Describe any innovative features of the program (e.g. involvement with local or regional agencies or offices, etc.).

The IU MSA Program will train AAs in the principles of systems based practice, perioperative medicine and coordinated care, quality improvement and anesthesia practice management. The MSA students will gain real world experience by designing and implementing a quality improvement project. The project, led by the student and guided by a physician and faculty mentor, will be built on the framework of interrelated activities designed to achieve measurable improvement in processes and outcomes of care. The culmination of the enhanced AA curriculum is a graduate with a global understanding of healthcare and the interrelation among providers that yields the optimum outcome.

*Appendix 2: Summary of Indiana Department of Workforce Development and/or U.S. Department of Labor Data*

The anesthesiologist assistant profession has only recently been licensed in Indiana and there is no data regarding the workforce in Indiana. The number of anesthesiologist assistants nation wide is relatively small and consequently is not listed in the U.S. Department of Labor Data.

Anecdotally, there are anesthesia practices within Indiana that are actively recruiting AAs or in the process of adding language to be able to admit AAs to their hospital staffs.

### ***Appendix 3: National, State, or Regional Studies***

Links to the studies cited or the studies themselves.

AAMC. Physician Shortages to Worsen without Increases in Residency Training. Updated web page 2014.

[https://www.aamc.org/download/153160/data/physician\\_shortages\\_to\\_worsen\\_without\\_increases\\_in\\_residency\\_tr.pdf](https://www.aamc.org/download/153160/data/physician_shortages_to_worsen_without_increases_in_residency_tr.pdf)

Daugherty L, Fonseca R, Kumar K, Michaud PC. An Analysis of the Labor Markets for Anesthesiology. 2010 <http://www.rand.org>

[http://www.rand.org/content/dam/rand/pubs/technical\\_reports/2010/RAND\\_TR688.pdf](http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR688.pdf)

<https://www.asahq.org/For-the-Public-and-Media/Press-Room/ASA-News/RAND-study.aspx>

Council on Accreditation. List of Recognized Educational Programs. 2014

<http://home.coa.us.com>



**Appendix 4: Surveys of Employers or Students and Analyses of Job Postings**

**This appendix should contain links to the surveys or analyses cited, or the documents themselves.**

Program	Cohort Size	Job Placement Rate (%)
Case Western – Cleveland	21	100
Case Western – Houston	22	98.5
Case Western – Washington, D.C.	16	100
Emory University	42	98.28
Nova Southeastern - Davie	45	99.2
Nova Southeastern - Tampa	25	98.6
Quinnipiac University	5	100
South University	19	100
University of Colorado	14	100
University of Missouri Kansas City	12	100

Job Placement Rates are calculated from the most recent available five-year data

Below is an example job listing from March/April 2016

Facility Name	Floyd Memorial Hospital
---------------	-------------------------

Facility City	New Albany
---------------	------------

Facility State	Indiana
----------------	---------

Facility Country	United States
------------------	---------------

Income Range	Estimated <b>a. Minimum</b> Income \$150,000 <b>b. Maximum</b> Income \$160,000
--------------	---

Description	Established, respected anesthesia in the Greater Louisville, KY area (New Albany IN) has immediate openings for qualified Anesthesiologist Assistants. This is a No Call and No Weekends!
-------------	---

Start Date	Immediate
------------	-----------

Employment Status: W-2 (Employee) or Independent Contractor	W-2
--	-----

Definite Job or a Pending Job:	Definite Job
--------------------------------	--------------

How often will AA be on FIRST call?	Will NOT be on FIRST call
-------------------------------------	---------------------------

## **Appendix 5: Letters of Support**

*This appendix should contain the letters of support for the program that were summarized in Section 2 (vi) above.*

Additional letters of support are expected from:

Robert G. Presson, Jr., M.D.  
Chair  
Department of Anesthesia  
IUSM

David Nakata, M.D.  
Program Director  
Anesthesiology Residency  
IUSM



## SCHOOL OF MEDICINE

INDIANA UNIVERSITY  
Office of the Dean

March 25, 2016

Randy R. Brutkiewicz, Ph.D.  
Associate Dean for Research and Graduate Studies  
Professor of Microbiology and Immunology  
Indiana University School of Medicine

Janice S. Blum, Ph.D.  
Chancellor's Professor, Microbiology and Immunology  
Associate Vice Chancellor for Graduate Education, IUPUI  
Associate Dean for Graduate Studies, Indiana University Graduate School

Dear Drs. Brutkiewicz and Blum:

I am writing this letter to enthusiastically support the creation of a Masters level program to educate and train Anesthesiologist Assistants within the Indiana University School of Medicine. Anesthesiologist Assistants are skilled professionals who work as members of anesthesia care teams to deliver high quality anesthetic care under the supervision and with the immediate availability of physician anesthesiologists. Indiana just completed the governmental processes by which anesthesiologist assistants can now be licensed to practice in the state. The American Society of Anesthesiologist fully supports the practice of anesthesiologist assistants in anesthesia care teams as an approach to delivering safe, high quality anesthesia care. Anesthesiologist assistants deliver anesthesia care as members of anesthesia care teams thus assuring those patients the medical knowledge, decision making and clinical skills of physician anesthesiologists throughout the perioperative continuum.

With the ongoing aging of the population and expanded insurance enrollment, there will be a growing need for anesthesia services in operating rooms, obstetrical units and procedural suites in addition to other areas including critical care medicine, pain management and perioperative care. For a number of workforce reasons, it is unlikely that this need can be met with physician anesthesiologists alone. Furthermore, the use of anesthesiologist assistants is a more economical model of care delivery which will help to lower the cost of health care and at the same time extend the capacity of physician anesthesiologists to deliver anesthesia services

while assuring the involvement and immediate availability of physician anesthesiologists for those patients. In the academic setting, the addition of anesthesiologist assistants to the Department of Anesthesia clinical staff will help free physician faculty members to provide broadened clinical services outside of the operating room and perform essential nonclinical functions such as teaching and research.

This program will serve a key mission of the School of Medicine which is to educate the next generation of health care providers. The Department of Anesthesia has a long track record of excellence in the training of medical students, residents and fellows and is ideally suited to lead this new program. This initiative has my full support.

Sincerely,

A handwritten signature in black ink, appearing to read "J L Hess".

Jay L. Hess, M.D., Ph.D., M.H.S.A.  
Vice President for University Clinical Affairs  
Dean of the School of Medicine  
Walter J. Daly Professor  
Indiana University

## ***Appendix 6: Faculty and Staff***

### Program Director

The program director must:

1. Supervise those activities of the faculty and administrative staff that are in direct support of the Anesthesiologist Assistant program
2. Organize, administer, continuously review, plan, and develop processes that ensure the program achieves all defined goals and objectives
3. Have regular contact with all entities that participate in the education of the students
4. Ensure that continuous and competent medical guidance for the clinically related program components is provided, so that
  - a. Supervised clinical instruction meets current standards of acceptable practice
  - b. Anesthesiologist assistant students learn, develop, and practice the knowledge and skills essential for successful professional interactions with physicians in the medical workplace;
5. Ensure that continuous and competent educational guidance is provided, so that the didactic demands placed by the clinical educational environment are adequately addressed by classroom curriculum design.

### Medical Director

The medical director must:

1. Organize, administer, continuously review, plan, and develop processes that ensure general effectiveness of clinical education in the program
2. Have regular contact with all entities that participate in the education of the students
3. Ensure that continuous and competent medical guidance for the clinically related program components is provided, so that:
  - a. Supervised clinical instruction meets current standards of acceptable practice;
  - b. Anesthesiologist assistant students learn, develop, and practice the knowledge and skills essential for successful professional interactions with physicians in the medical workplace;

4. Ensure that continuous and competent educational guidance is provided, so that the didactic demands placed by the clinical educational environment are adequately addressed by classroom curriculum design.

Assistant Program Director

The assistant program director must:

1. As directed by the Program Director, participate in:
  - (a) Supervise those activities of the faculty and administrative staff that are in direct support of the Anesthesiologist Assistant program;
  - (b) Organize, administer, continuously review, plan, and develop processes that ensure
  - (c) Have regular contact with all entities that participate in the education of the students
  - (d) Ensure that continuous and competent medical guidance for the clinically related program components is provided, so that:
    - i. Supervised clinical instruction meets current standards of acceptable practice
    - ii. Anesthesiologist assistant students learn, develop, and practice the knowledge and skills essential for successful professional interactions with physicians in the medical workplace
2. Perform the functions of the Program Director in his or her absence.

Didactic and Clinical Faculty:

The instructional faculty must be responsible for providing classroom and clinical instruction, evaluating students and reporting progress as required by the institution, and periodically reviewing and updating course and instructional materials. In the clinical teaching of students, the faculty must supervise the student and provide assessment of student's in achieving acceptable program requirements. Didactic and Clinical faculty will maintain a relatively static core of educators. However, the list of faculty will change with additions and deletions to the IU Department of Anesthesia. Below is a list of the IU Department of Anesthesia faculty as of 9/15/2015:

**Indiana  
University  
School of  
Medicine**

*Faculty and/or Other  
Academic Appointees  
9/15/2015*

*Parameters:  
Department: Anesthesia;  
Activity Status: Active  
Faculty and Lecturers*

<b>Last</b>	<b>First</b>	<b>Middle</b>	<b>Campus</b>	<b>Primary Academic Dept</b>	<b>Current Titles</b>
Abbasi	Rania	K.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Acquaviva	Michael	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Adal	Yonas		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Adams	Jerome	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Adkins	James	M.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Adlaka	Rajive	K.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Aitchison	W	Brian	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Albrecht	Willard	H.	IUSM-Indianapolis	Anesthesia	Assistant Professor Emeritus of Anesthesia
Allen	Paul	D.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Professor of Anesthesia
Allison	Jacquelyn	E.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Anagnostou	Jonathan	M.	IUSM-Indianapolis	Anesthesia	Associate Professor, Part-Time, of Clinical Anesthesia
Austgen	Charles	R.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Austin	Kenneth	R.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Backfish	Kevin	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Belamkar	Vinayak	C.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Berkowitz	Richard	A.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary



Bochenek	Kenneth	J.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Bojrab	G.	David	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Boskovich	Dana		IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Brandley	Nathan	E.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Bricker	Jeremy	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Brock	Dana	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Brody	Michael	A.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Brown	Lacey	P.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Bumb	Karen	L.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Buono	Mark	A.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Bye	Leighan	S.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Calkins	Paul	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor, Part-Time, of Clinical Anesthesia
Campbell	William	T.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Chaudhry	Mussart	K.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Cheuk	Derek	T.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Chiara	John	S.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie

Collins	Elizabeth	A.	IUSM-Indianapolis	Anesthesia	Visiting Assistant Professor of Clinical Anesthesia
Costello	Gerard	T.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Cox	John	T.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Crane	Kenneth	J.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Croner	Michael	D.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Crook	Andrew	J.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Curtis	Charles	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
David	Jose	F.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
DeMasie	Katherine	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
DeStefano	Bradley	S.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Dhadha	Hardeep	K.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Dierdorf	Stephen	F.	IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia
Dorwart	Amy	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Dorwart	Michael	R.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Dove	Robert	M.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Drake	Michael		IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Dunn	Allen	W.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Eddy	Christopher	S.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Egan	Brian	N.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Egan	Jennifer	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia

Elsahy	Ahmed	I.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Emhardt	John	D.	IUSM-Indianapolis	Anesthesia	Associate Professor of Anesthesia
Fisk	Elsa	N.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Fite	Meghan	I.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Floyd	Mark	S.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Funke	Anthony	L.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Gallen	Thomas	B.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Ghosh	Koushik		IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Gibbs	Kevin	A.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Gibbs	Philip	S.	IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia
Green	Morton	C.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Gries	Aaron	T.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Griggs	James	H.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Grindle	Christopher	E.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Gronemeyer	Robert	J.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Grove	Gene	W.	IUSM-South Bend	Anesthesia	Volunteer Clinical Associate Professor of Anesthesia, IUSM-South Bend
Gupta	Sanjay		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Gwartz	Kenneth	H.	IUSM-Indianapolis	Anesthesia	Professor of Clinical Anesthesia
Hamilton	Matthew	C.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia

Hardacker	Doris	M.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Harker	H.	Gene	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Harris	Ryan	D.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Hasewinkel	John	V.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Hathaway	Robert	C.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Henricks	Eric	A.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Hobbs	Johnny	L.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Hoover	David	E.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Horn	Nicole	D.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
House	Jonathan	D.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Inman	Michael	E.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Jachim	Matthew	A.	IUSM-South Bend	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-South Bend
Jackson	Jeffrey	L.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Jenkins	Brian	D.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Jenkins	Gregory	T.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Johnson	Jodie	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Jongsma	Kenneth	A.	IUSM-South Bend	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-South Bend
Kamman	Kean	A.	IUSM-South Bend	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-South Bend
Kenner	Sylvia	U.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia

Kibby	Brandon	T.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kilinski	Lawrence	C.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Kim	Min Su		IUSM-Indianapolis	Anesthesia	Adjunct Assistant Research Professor of Anesthesia
Kinsella	Sandra	B.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kondamuri	Shaun		IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Kovach	David	A.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Krishna	Gopal		IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia
Kritzmire	Stacy	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kroepfl	Elizabeth	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kuber	Sanjay	B.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kuhlenschmidt	Duane	H.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Kuzmic	Jon	P.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Kyker	Mark	U.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Lambourne	Kathryn		IUSM-South Bend	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-South Bend
Lasley	Maggie	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Latham	Leigh	B.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Lemmon	Adam	J.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Levin	Katherine	R.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Levine	James	H.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Lin	Louis		IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary

Lindsey	Robert	L.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Lindzy	Charles	S.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
LoSasso	Alvin	M.	IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia
Mackie	Kenneth	P.	IUSM-Indianapolis	Anesthesia	Linda and Jack Gill Chair of Neuroscience, College of Arts & Sciences, IU Bloomington; Professor of Psychological and Brain Sciences, College of Arts & Sciences, IU Bloomington; Adjunct Professor of Anesthesia
Malchioni	Michael	J.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Mardis	D.	Curtis	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Martin	Neil	J.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Maves	Steven	S.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Mazurek	Michael	S.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Mazzara	Peter	R.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
McBride	Grant	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
McCutchan	Amy	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
McNiece	William	L.	IUSM-Indianapolis	Anesthesia	Associate Professor of Anesthesia
Meyer	Cynthia	A.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Miller	Michael	D.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Mitchel	Lucas	W.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia

Mitchell	James	Q.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Mohiuddin	Asim		IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary
Moorthy	Sreenivasa	S.	IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia; Professor Emeritus of Respiratory Therapy, School of Health & Rehabilitation Sciences
Mullis	Leilani	S.	IUSM-Indianapolis	Anesthesia	Assistant Professor, Part-Time, of Clinical Anesthesia
Nagy	Ryan	D.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Nakata	David	A.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Njalamimba	Mushoba		IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Nouri	Malik		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Okano	David	R.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
O'Neil	Patrick	R.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Pai	Rajesh	K.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Panigrahi	Tanmay		IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Park	Chanwang		IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Patel	Jaimini	R.	IUSM-Terre Haute	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Terre Haute
Patel	Rajesh	J.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Pelech	Emil		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Perez-Majul	Fernando	B.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Peterson	Ronald	D.	IUSM-Northwest-Gary	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Northwest-Gary

Pfefferkorn	Troy	G.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Pond	William	W.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Associate Professor of Anesthesia, IUSM-Fort Wayne
Poovendran	Poopalasingham		IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Presson	Robert	G.	IUSM-Indianapolis	Anesthesia	Chair, Department of Anesthesia; Robert K. Stoelting Professor of Anesthesia; Professor of Pediatrics
Presto	Eugene	P.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Rademaker	John	B.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Rao	Chalapathi	C.	IUSM-Indianapolis	Anesthesia	Associate Professor Emeritus of Anesthesia
Ratzman	David	M.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Ravindran	Ram	S.	IUSM-Indianapolis	Anesthesia	Associate Professor Emeritus of Anesthesia
Rawls	Paula	J.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Renfro	Leslie	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Ridge	J.	David	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Robinson	Mark	H.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Rosenfeld	Stephen	H.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Rumjahn	Howard	A.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Sakamoto	Bryan	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Salamie	Gabriel	L.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Sanford	Michael	W.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia



Sapir	Dan	A.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Saysana	Chansamone		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Scott	David	A.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Shah	Aali	M.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Shah	Ricky	B.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Sheplock	George	J.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Sidel	Todd	A.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Skupski	Richard	W.	IUSM-South Bend	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-South Bend
Spisak	Kristen	O.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Stark	David	M.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Stasic	Andrew	F.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Steinkamp	Barry	A.	Medical Sciences Program (Bloomington)	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, Medical Sciences Program
Stewart	Jennifer	L.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Stoelting	Robert	K.	IUSM-Indianapolis	Anesthesia	Professor Emeritus of Anesthesia
Surendran	Arvind		IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Fort Wayne
Tasch	Mark	D.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia
Tirabasso	Victor	J.	IUSM-Evansville	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Evansville
Tolley	James	A.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Townley	Normand	T.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia

Tran	Bui	T.	IUSM-Indianapolis	Anesthesia	Assistant Professor, Part-Time, of Clinical Anesthesia; Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Traylor	Beth	A.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Vargas	Juan	C.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-Muncie
Viegas	Oscar	J.	IUSM-Indianapolis	Anesthesia	Associate Professor Emeritus of Anesthesia
Vore	Robert	E.	IUSM-Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Wagner	Dennis	L.	IUSM-Indianapolis	Anesthesia	Professor of Clinical Anesthesia
Walker	Scott	G.	IUSM-Indianapolis	Anesthesia	Associate Professor of Clinical Anesthesia; Gopal Krishna, M.D. Scholar in Pediatric Anesthesia
Walton	Charlene		IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Warner	Matthew	D.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Webb	Timothy	T.	IUSM-Indianapolis	Anesthesia	Visiting Assistant Professor of Clinical Anesthesia
Weber	Stanley		IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Wellington	Joshua	R.	IUSM-Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia; Assistant Professor of Clinical Physical Medicine & Rehabilitation
White	Fletcher	A.	IUSM-Indianapolis	Anesthesia	Vergil K. Stoelting Professor of Anesthesia; Professor of Pharmacology & Toxicology; Professor of Ophthalmology
Wildermuth	Michael	B.	IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette
Windokun	Adejare		IUSM-West Lafayette	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM-West Lafayette

Wolfe	John	W.	IUSM- Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Yeap	Yar Luan		IUSM- Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Young	Jerry	V.	IUSM- Indianapolis	Anesthesia	Professor of Clinical Anesthesia
Young	Steven	R.	IUSM- Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Yu	Corinna	J.	IUSM-Muncie	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia, IUSM- Muncie
Zeiger	John	F.	IUSM-Fort Wayne	Anesthesia	Volunteer Clinical Associate Professor of Anesthesia, IUSM-Fort Wayne
Zhang	Jie		IUSM- Indianapolis	Anesthesia	Assistant Professor of Clinical Anesthesia
Zience	John	A.	IUSM- Indianapolis	Anesthesia	Volunteer Clinical Assistant Professor of Anesthesia
Zinni	Nancy		IUSM- Indianapolis	Anesthesia	Assistant Professor, Part-Time, of Clinical Anesthesia

## ***Appendix 7: Facilities***

This appendix should contain additional information on major impacts on facilities caused by this program.

No major impacts are anticipated. Approximately 3000-3500 square feet are planned for the program. See section 3.a.ii.

### ***Appendix 8: Other Capital Costs***

This appendix should contain additional information on other capital costs associated with the program.

See Section 3.

***Appendix 9: Articulation of Associate/Baccalaureate Programs***

This appendix should contain the actual articulation agreements relevant to the proposed program.

Not applicable.

### ***Appendix 10: Credit Hours Required/Time to Completion***

The MSA Program at IU will offer a Masters degree following the completion of 104 required credit hours. The student shall complete all courses within the curriculum. All courses are required and there are no electives or advanced placement credits available. The CIP code is 51.0809.

In order to be eligible for a degree from Indiana University, the School of Medicine, and the MSA Program, it is required that all students shall complete each of the following objectives:

1. Successful completion of all academic courses and requirements for the degree
2. Satisfactory completion of the program of study required for the degree
3. Satisfactory clinical performance as determined by the Program and Clinical faculty
4. Satisfactory discharge of all financial obligations to the University
5. Attend in person the rehearsal and commencement program at which time the degree is conferred.
6. Received recommendation for granting of the degree Master of Science in Anesthesia from the Program Director, Medical Director and approval by the Dean of the School of Medicine.
7. Special requirements:
  - a. Participation in a minimum of 2000 clinical hours of direct patient
  - b. Participation in a minimum of 650 anesthetics
  - c. Meet requirements for application to take the National Certification Examination administered by the National Commission for the Certification of Anesthesiologist Assistants (NCCAA)

## **Projected Curriculum Overview**

### **IU Master of Science in Anesthesia Program**

**SEMESTER 1 – Fall I (15)**

Anesthesia Early Practice Immersion Course (“Anesthesia EPIC”)	5
Principles of Clinical Instrumentation & Monitoring I	2
Orientation to Clinical Anesthesia	3
Cardiac Electrophysiology	2
Basic Technical Skills & Patient Assessment	3
Minimum Clinical experience: 120 hours	

### **SEMESTER 2 – Winter I (15)**

Advanced Technical Skills & Patient Optimization	3
Applied Physiology in AA Practice I	3
Pharmacology for AAs I	2
Introduction to Systems-Based Practice	2
Clinical AA Experience I	3
Principles of Instrumentation & Monitoring II	2
Minimum Clinical experience: 250 hours	

### **SEMESTER 3 – Summer I (18)**

Principles of Perioperative Medicine & Care Coordination	2
Pharmacology for AAs II	3
Intraoperative Anesthesia Management	3
Applied Physiology for AA Practice II	3
Anesthesia Principles and Practices I	3
Clinical AA Experience II	4
Minimum Clinical experience: 300 hours	

### **SEMESTER 4 – Fall II (15)**

Anesthesia Principles & Practice II	3
Quality Improvement & AA Practice Management I	3
Introduction to AA Non-Technical Skills (ANTS)	2
Clinical AA Experience III	4
Introduction to Anesthesia Crisis Resource Management	3
Minimum Clinical experience: 400 hours	



**SEMESTER 5 – Winter II (15)**

Quality Improvement & Practice Management I	3
Senior Perioperative Surgical Home Project	2
Advanced Clinical AA Experience I	8
Context Appropriate Simulation Training (CAST Program)	2
Minimum Clinical experience: 500 hrs	

**SEMESTER 6 – Summer II (13)**

Senior Quality Improvement Project	2
Advanced Clinical AA Experience II	9
Context Appropriate Simulation Training (CAST Program)	2
Minimum Clinical experience: 500 hrs	

**SEMESTER 7 – Fall III (13)**

Senior Quality Improvement Project	2
Advanced Clinical AA Experience III	9
Context Appropriate Simulation Training (CAST Program)	2
Minimum Clinical experience: 500 hrs	

**Total Credits (Basic Science/Simulation) 64**

**Total Credits (Clinical) 40**

**Total Credits Hours for the Program 104**

**Orientation to Clinical Experience 120**

**Clinical AA Experience I-III 950**

**Advanced Clinical Experience I-III 1500**

**Total Clinical Hours for the Program 2570**

***Appendix 11: Exceeding the Standard Expectation of Credit Hours***

This appendix should contain detailed information on why it is necessary to exceed the standard credit hour expectation, such as links to relevant licensure and/or accreditation standards the standards themselves.

The program is not anticipated to exceed standard credit hour expectations.