



ACADEMIC PROGRAM PROPOSAL FORM

(Revised May 2014)

DIRECTIONS: Use this form when proposing a new major or primary field of study, new emphasis, or new degree program.

DATE SUBMITTED: August 2015

Date of AAC Approval:
September 9, 2015

INSTITUTION: University of Nevada, Las Vegas

REQUEST TYPE:

- New Degree
- New Major or Primary Field of Study
- New Emphasis

Date of Board Approval:

DEGREE (i.e. Bachelor of Science): Doctor of Medicine, M.D.

MAJOR (i.e. Animal Science): NA

EMPHASIS (i.e. Equine Studies): NA

CREDITS TO DEGREE: 376

PROPOSED SEMESTER OF IMPLEMENTATION: Fall 2017

Action requested:

Approval of the UNLV School of Medicine Doctor of Medicine, M.D., degree is requested.

A. Brief description and purpose of proposed program

The Doctor of Medicine degree will allow the UNLV School of Medicine (UNLV SOM) to train a diverse group of future Nevada doctors to work in healthcare teams, apply cutting-edge technology, and develop novel, yet classically-based treatment solutions for diseases of the present and future.

B. Statement of degree or program objectives

There are numerous program objectives and they are diagramed in Attachment 1, M.D. Educational Program Objectives along with the general competencies and the outcome measures (assessment).

The competencies include:

- Medical Knowledge
- Patient Care
- Communication Skills
- Professional Development
- Practice-Based Learning and Improvement
- Systems-Based Practice

C. Plan for assessment of degree or program objectives

The specific educational program objectives are included in Attachment 1, M.D. Educational Program Objectives. The key for the outcome measures is at the bottom of the attachment and defines the abbreviations used.

The diagram illustrates the Learning Communities (LC) in which each program objective will occur, which of the General Competencies will be met during achievement of each objective, and which Outcome Measure(s), i.e., exam, faculty evaluation, project/presentation will be used to evaluate the achievement of the learning.

D. Plan for assessment of student learning outcomes and the use of this data for program improvement

The assessment plans for the School of Medicine are complex as is appropriate for this type of education. Below are some of the general assessment topics with the full assessment plan provided as Attachment 2.

The Goals of Assessment in Medical Education:

- Guide and enhance student learning
- Demonstrate mastery of:
 - core body of knowledge essential for clinical practice
 - critical thinking skills, clinical and communication skills, and professionalism necessary to apply knowledge in clinical practice
 - ability to find, analyze, and interpret new data necessary to clinical practice
- Guide faculty teaching efforts
- Provide basis for making student progress decisions
- Inform curricular development and quality improvement
- Fulfill institutional and reporting responsibilities

Benefits to Students from Assessment:

Assessment:

- Is a learning method
- Directs student learning effort
- Measures student progress in learning
- Prepares students for life-long self-assessment and learning
- Motivates students

Criteria for Effective Assessment:

1. A clear statement of intended learning outcomes
2. A variety of assessment procedures
3. Integration of intended learning outcomes, the learning tasks, and the assessment procedures
4. Adequate sampling of student performance
5. Equitable procedures for all participants
6. Explicit, specific criteria are used in judging successful performance
7. Timely feedback to students that emphasizes strengths of their performance and focuses their attention on specific areas in need of improvement
8. A grading and reporting system that is fair and equitable

Purpose of assessment in School of Medicine Curriculum

The purpose of assessment is to:

- Support student learning through assessment processes that are consistently implemented across the curriculum
- Support faculty development in assessment theory, methods, and implementation
- Monitor and provide an ethical, equitable assessment process and environment for students
- Provide timely, accurate assessment data to students, faculty and the institution
- Maintain state-of-the-art expertise

Guiding principles for assessment at UNLV SOM:

- Frequent formative & lower stakes summative examinations
- Criterion-referenced standards
- U.S. Medical Licensing Examination (USMLE) style multiple choice questions
- Assessment that is linked to the student learning objectives
- Examinations reflect all aspects of the curriculum (e.g., clinical skills, tutorials, ethics and professionalism) to emphasize patient care values
- Consistency in assessment standards and practices among curricular components

Assessment Implementation Aspirations for UNLV SOM:

Curricular Framework:

- A coherent assessment framework for the curriculum is established at the level of the school (as opposed to the course level)
- Test methods and items will be developmentally appropriate to the students' expected level of learning
- Accountability and assessment will be integrated into the daily learning experience.
- Assessment will be linked to the learning objectives and the content database.

Testing Methods:

- Multiple methods will be used, as all assessment methods have limitations and no one method can assess all skills of interest
- Assessment will reflect synthesis and application of pertinent knowledge
- Formative and summative assessments will be congruent

Peer Review:

- Assessment methods and items will be pilot tested
- Test items will be peer reviewed

Standards:

- Criterion-based assessment standards will be appropriate to the students' expected level of learning
- Minimum standards are established prior to examinations

Reporting:

- Feedback to the students will be timely
- Feedback to the faculty (course faculty, advisors, deans, etc.) will be timely.

Innovations:

- Up-to-date methods of test development, test administration and grading will be used for tests of medical knowledge; computer-based multiple choice exams will generate grades; for clinical skills, competency-based evaluation.

The School of Medicine's assessment plan is based on the many years of experience the dean, the vice dean and the other staff members have gained in medical education. It is also based on best practices and tools available to medical educators such as the Gap-Kalamazoo Communication Skills Assessment and the Calibrated Peer Review™ <http://cpr.molsci.ucla.edu/Home.aspx>.

E. Contribution and relationship of program objectives to

i. NSHE Master Plan

The University of Nevada, Las Vegas School of Medicine will create a significant return on investment for the state and will be one of the single greatest achievements at UNLV in terms of benefiting the community by providing access to high-quality healthcare, including medically underserved and diverse populations. The SOM will capitalize on the strengths of existing academic programs in the UNLV schools of Allied Health Sciences, Dental Medicine, Community Health Sciences, Nursing, the College of Sciences, and other health-science related programs throughout the university. The university will build from a foundation of excellence, recruiting the best faculty and students and applying the same business model used for the successful launch of the William S. Boyd School of Law.

The SOM will be an innovative center for teaching a diverse group of future Nevada doctors how to work in healthcare teams; apply cutting-edge technology; and develop novel, yet classically-based treatment solutions for diseases of the present and future. The school will be part of a world-class academic medical center that serves the community and works collaboratively with local healthcare institutions and professionals to enhance clinical care for all citizens, including the development of specialized treatment programs, while also developing first-class research programs aimed at preventing, treating and curing diseases. The school will integrate public undergraduate medical education and graduate medical education (or residencies) to cultivate more doctors to stay and serve southern Nevada residents. The institution will build clinical, educational, and research programs in cardiology, neuroscience, mental health and addiction, cancer, and orthopedics.

ii. Institutional mission

UNLV believes that its mission statement supports the vision of a school of medicine very appropriately. Realizing that over seventy percent of Nevada's population is located in southern Nevada, UNLV's former president Neal Smatresk began discussions with the NSHE and the Board of Regents regarding the addition of a school of medicine. The school would complement UNLV's existing medical education programs such as Health Physics, Medical Physics, Nuclear Medicine, Kinesiology, Physical Therapy, Public Health, Health Care Administration and Policy, Dental Medicine, and Nursing.

UNLV's mission statement encourages discovery through research and scholarship; strong, reciprocal, and interdependent relationships between the institution and the region; and innovative, entrepreneurial ideas.

The UNLV School of Medicine is establishing relationships with several existing medical entities in Las Vegas such as the new Veterans Administration Medical Center, the Cleveland Clinic Lou Ruvo Center for Brain Health, University Medical Center, and numerous other hospitals.

The School of Medicine is expected to make substantial contributions to the research mission of UNLV, further aligning with the mission statement.

iii. Campus strategic plan and/or academic master plan

The SOM will increase UNLV's research and scholarly productivity and will move the institution toward becoming a top tier university with an anticipated \$48 million in external research by 2025, and add Ph. D. programs. UNLV seeks to build focused research and academic programs such as mental health and addiction, cardiology, neuroscience, cancer, and orthopedics. The school will provide the state and region with a strong workforce and a university partner to build and provide an engine for economic development.

iv. Department and college plan

The School of Medicine will develop a world class center for education, patient care, and research that prepares Nevada's doctors with the most innovative and technologically advanced forms of medical training while serving the healthcare needs of a diverse and urban population through community partnerships.

The proposed organizational structure for the school was approved by the NSHE AAC in June 2015 and approved at the September 2015 Board of Regents meeting. Ultimately the school will become a full service academic health center within UNLV. It will partner with hospitals, health care facilities, research entities and other institutions to ensure the best education and training experience for students. To meet the needs for undergraduate and graduate medical education in much-needed specialties and subspecialties of medicine, it will be necessary to have faculty members who can teach, provide clinical services, and conduct research in these critical areas. Obviously this growth will take time to develop but as faculty are recruited for teaching they will begin to populate these departments based on individual specialties.

v. Other programs in the institution

The SOM will collaborate with many UNLV units. Major collaborations have already been developed with Nursing, Allied Health Sciences, Community Health Sciences, Dental Medicine, Sciences, Engineering, Law, Business, Hotel Administration, Education, Urban Affairs, and Liberal Arts. For example, mental health studies are taught in other existing UNLV units and the School of Medicine will utilize those resources. For many of these units, the relationships involve both interdisciplinary education and research. For other units, the relationships will be to develop particular programs to further the education of the students in topic areas including: bioethics, community leadership, hospitality in healthcare, public and community health, the business of medicine, clinical trials research, and mental health and addiction. The SOM also plans to offer collaborative certificate programs in these areas that will be available to students and other community members.

vi. Other related programs in the System

The University of Nevada School of Medicine located in Reno.

F. Evaluation of need for the program

i. Intrinsic academic value of program within the discipline

The School of Medicine will be an innovative center for teaching a diverse group of future Nevada doctors how to work in healthcare teams; apply cutting-edge technology; and develop novel, yet classically-based treatment solutions for diseases of the present and future. The school will be part of a world-class academic medical center that serves the community and works collaboratively with local healthcare institutions and professionals to enhance clinical care for all citizens, including the development of specialized treatment programs, while also developing

research programs aimed at preventing, treating and curing diseases. The school will integrate public undergraduate medical education and graduate medical education (or residencies) to cultivate more doctors to stay and serve southern Nevada residents. The institution will build clinical, education and research programs in cardiology, neuroscience, mental health and addiction, cancer, and orthopedics.

ii. Evidence of existing or projected local, state, regional, national and/or international need for program

There is a well-identified need to further advance healthcare in southern Nevada and establish the foundation to meet the demands of a growing and aging population. Las Vegas is the largest urban area in the U.S. without a dedicated, public medical school and is challenged to provide quality healthcare to all of its citizens. According to the Association of American Medical Colleges in 2010, Nevada ranked 45th in the country in the number of physicians per 100,000 population and 46th in the U.S. in the number of primary care physicians per 100,000 population. According to the Nevada Department of Taxation and Nevada State Demographer, the governor's office certified the state's population as of July 1, 2013 at 2,800,967. The population of southern Nevada's Clark County (where the University of Nevada, Las Vegas is located) as of that date was 2,031,723 which is 73% of the total population. Las Vegas is expected to grow to nearly 3.7 million by 2030. This does not take into account the over 40 million tourists that come to Las Vegas annually and those who may need access to medical care. These numbers clearly indicate a need for more medical education resources in southern Nevada to meet the demand of the population.

iii. If this or a similar program already exists within the System, what is the justification for this addition

The University of Nevada School of Medicine is located in Reno. Based on Nevada's 45th ranking in the country in the number of physicians per 1000,000 population and 46th in the U.S. in the number of primary care physicians per 100,000 population, one medical school in Nevada cannot serve the needs of the entire state.

iv. Evidence of employment opportunities for graduates (state and national)

A March 2015 report prepared for the Association of American Medical Colleges states that 36% of the active physician workforce are between ages 55 and 75 and many in this age group will retire within the next 10 years. It goes on to state that there is a projected shortfall of between 46,100 and 90,400 physicians by 2025. The U.S. population aged 65 and older is expected to grow 46% and the population under 18 will grow 5% in the next 10 years. The number of physicians completing their graduate medical education has risen from about 27,000 to only about 29,000 annually

(https://www.aamc.org/download/426242/data/ihsreportdownload.pdf?cm_mmc=AAMC_-_ScientificAffairs_-_PDF_-_ihsreport).

v. Student clientele to be served (Explain how the student clientele is identified)

The four designated under-represented student categories for the UNLV SOM are: African American, Hispanic, Native American, and Pacific Islander. A pipeline currently exists at UNLV for pre-med students and it reflects the Las Vegas community which is extraordinarily diverse. Grant proposals have been submitted to develop additional pipelines, plus a proposal for a program to allow students to begin studies in the summer is under construction. Programs currently exist at UNLV that are joint with the Clark County School District to introduce students as young as those in elementary school to the STEM disciplines. UNLV's Office of Diversity Initiatives will assist in this work.

The SOM scholarship drive raised twice as many scholarships as targeted in less than 60 days. This will enable the school to select students with the greatest potential without regard to financial ability. The school plans to recruit qualified students throughout Nevada, surrounding states, and nationally.

G. Detailed curriculum proposal

i. Representative course of study by year (options, courses to be used with/without modification; new courses to be developed)

The course of study is detailed in Attachment 3, 2017 Curriculum Map and the specific courses are detailed in Attachment 4, Graduation Requirements.

ii. Program entrance requirements

The SOM has structured its entrance requirements to be inclusive rather than exclusive, thus enabling students of a wider variety of backgrounds to qualify for the program. Exceptions to the standards below will be considered on an individual student basis.

Required Prerequisites:

- Biology - Three semesters, at least one of which has an associated laboratory (AP and online courses do not fulfill this prerequisite). Students are encouraged to take higher level biology courses.
- Chemistry - One semester of Biochemistry (organic chemistry does not fulfill this prerequisite).
- Psychology, Sociology or Behavioral Science - One semester.

All applicants must have taken the Medical College Admission Test (MCAT) exam within three years of potential matriculation to medical school and earned a score of at least 25 on the old MCAT and a score of at least 498 on the new MCAT.

A GPA of 3.2 or higher is required and a B.A. or B.S. degree.

Recommended Courses:

- Genetics
- Immunology
- Physiology
- Molecular Biology
- Statistics

iii. Program completion requirements (credit hours, grade point average; subject matter distribution, preprogram requirements)

The awarding of the Doctor of Medicine degree is contingent upon satisfactory completion of all curricular requirements and academic and professional conduct requirements. The latter includes the demonstration of behavior patterns and attitudes consistent with the oath that all students take at the time of graduation. Student evaluation is based upon the observation of faculty and others in a teaching role of the student's behavior and conduct as well as performance on papers and examinations. A pattern of documented evaluator concerns about a student's performance may indicate unsatisfactory performance when the record is viewed as a whole, even though passing grades have been assigned in individual curricular elements such as the required courses and clerkships.

Every student is required to participate in intersession programs, successfully complete a scholarly research project, pass all components of the Objective Structured Clinical

Examinations, and pass the United States Medical Licensure Examinations (Step 1, Step 2-Clinical Knowledge, Step 2-Clinical Skills) in order to graduate.

iv. Accreditation consideration (organization (if any) which accredits program, requirements for accreditation, plan for attaining accreditation - include costs and time frame)

The accrediting agency for medical schools in the U.S. is the Liaison Committee on Medical Education (LCME). The LCME's scope is limited to complete and independent medical education programs whose students are geographically located in the United States or Canada for their education and that are operated by universities or medical schools chartered in the United States or Canada. LCME accreditation is a voluntary, peer-review process of quality assurance that determines whether the program meets established standards. This process also fosters institutional and program improvement. To achieve and maintain accreditation, a medical education program leading to the M.D. degree in the U.S. and Canada must meet the LCME accreditation standards contained in the document Functions and Structure of a Medical School. Programs are required to demonstrate that their graduates exhibit general professional competencies that are appropriate for entry to the next stage of their training and that serve as the foundation for lifelong learning and proficient medical care. While recognizing the existence and appropriateness of diverse institutional missions and educational objectives, the LCME subscribes to the proposition that local circumstances do not justify accreditation of a substandard program of medical education leading to the M.D. degree (<http://www.lcme.org/about.htm>).

Accreditation by the LCME establishes eligibility for selected federal grants and programs, including Title VII funding administered by the Public Health Service. Most state boards of licensure require that U.S. medical schools be accredited by the LCME, as a condition for licensure of their graduates. Eligibility of U.S. students to take the United States Medical Licensing Examination (USMLE) requires LCME accreditation of their school. Graduates of LCME-accredited schools are eligible for residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). The LCME is recognized as the reliable accreditation authority for M.D. programs by the nation's medical schools and their parent universities. It also is recognized for this purpose by Congress in various health-related laws, and by state, provincial (Canada), and territorial medical licensing boards. The U.S. Department of Education recognizes the LCME for accreditation of programs of medical education leading to the M.D. degree in the United States in institutions that are themselves accredited by regional accrediting associations. Institutional accreditation assures that medical education takes place in a sufficiently rich environment to foster broad academic purposes (<http://www.lcme.org/about.htm>).

The LCME is jointly sponsored by the Association of American Medical Colleges (AAMC) and the Council on Medical Education of the American Medical Association (AMA). The AAMC and the AMA each appoint an LCME Co-Secretary (known jointly as the Secretariat) and maintain accreditation offices in Washington, D.C. and Chicago, respectively.

The LCME has 12 standards with multiple elements to address in each one:

Standard 1: Mission, Planning, Organization, and Integrity

Standard 2: Leadership and Administration

Standard 3: Academic and Learning Environments

Standard 4: Faculty Preparation, Productivity, Participation, and Policies

Standard 5: Educational Resources and Infrastructure

Standard 6: Competencies, Curricular Objectives, and Curricular Design

Standard 7: Curricular Content

Standard 8: Curricular Management, Evaluation, and Enhancement

Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety

Standard 10: Medical Student Selection, Assignment, and Progress

Standard 11: Medical Student Academic Support, Career Advising, and Educational Records

Standard 12: Medical Student Health Services, Personal Counseling, and Financial Aid Services

The costs and timeframe of the accreditation depends on several variables including the number of times the LCME determines site visits are required. Another requirement is that the school of medicine graduate one class of students. Full accreditation is expected in 2021-2022.

v. Evidence of approval by appropriate committees of the institution

The UNLV Faculty Senate considered two resolutions on the establishment of a school of medicine at UNLV. The first was April 2013 in which it was resolved that the UNLV Faculty Senate commended the transparent and constructive discussions within the NSHE system and that the Senate endorsed the creation of a school of medicine at UNLV to serve the citizens of Nevada. The second was in November 2013 in which the UNLV Faculty Senate endorsed it, supported full compliance with the Liaison Commission on Medical Education and its guidelines for developing new medical schools and independent accreditation from the UNSOM, and that faculty and leadership of the new school of medicine should be faculty members from UNLV. The President's Cabinet enthusiastically discussed the possibility of a medical school at UNLV several times during meetings in 2013. The proposed school of medicine was presented and discussed at several deans' council meetings in 2013 without any objections from the deans. There are very few objections to the medical school among any group of stakeholders because so many Nevada residents have experienced issues with accessing doctors and particularly specialists.

H. Readiness to begin program

i. Faculty strengths (specializations, teaching, research, and creative accomplishments)

Faculty strengths:

Barbara Atkinson, M.D., Planning Dean. Dr. Atkinson has achieved national recognition for her success as Chancellor and Executive Dean, University of Kansas School of Medicine, leading growth in research, clinical services including Cancer Center designation, curriculum renewal, and establishing two branch campuses. Dr. Atkinson is a noted medical researcher and cytopathologist.

Ellen Cosgrove, M.D., Vice Dean, Academic Affairs & Education. Dr. Cosgrove achieved national recognition for curriculum development at the University of Washington and the University of New Mexico School of Medicine. Dr. Cosgrove was honored as Regents' Professor at University of New Mexico for leading the integration of public health in the M.D curriculum.

Samuel Parrish, M.D., Senior Associate Dean Admissions & Student Affairs. Dr. Parrish was Dean of Admissions and Student Affairs at both the Schools of Medicine Drexel University and Quinnipiac University and has been in national leadership of the Student Affairs group of the Association of American Medical Colleges.

Laura Culley, M.D., Associate Dean Health Policy & Community Affairs. Dr. Culley established Nevada's first federally-qualified health center in Las Vegas. Dr. Culley is a respected practitioner of Internal Medicine in the Las Vegas Community.

Stephen Dahlem, M.D., Director of Case-based Learning. Dr. Dahlem directed the Program for Integrated Learning at Drexel University School of Medicine.

Neil Haycocks, M.D., Ph.D., Director of Scientific Integration. Dr. Haycocks developed a similar role at a new medical school, the Frank Netter School of Medicine at Quinnipiac University.

ii. Contribution of new program to department's existing programs (both graduate and undergraduate) and contribution to existing programs throughout the college or university

The UNLV SOM will collaborate with many UNLV units. Major collaborations have already been developed with Nursing, Allied Health Sciences, Community Health Sciences, Dental Medicine, Sciences, Engineering, Law, Business, Hotel Administration, Education, Urban Affairs, and Liberal Arts. For example, mental health studies are taught in other existing UNLV units and the School of Medicine will utilize those resources. For many of these units, the relationships involve both interdisciplinary education and research. For other units, the relationships will be to develop particular programs to further the education of the students in topic areas including: bioethics, community leadership, hospitality in healthcare, public and community health, the business of medicine, clinical trials research, and mental health and addiction. The UNLV SOM also plans to offer collaborative certificate programs in these areas that will be available to students and other community members.

iii. Completed prior planning for the development of the program (recent hires, plans for future hires, securing of space, curricular changes, and reallocation of faculty lines)

Recent hires: Mario Gaspar de Alba, M.D. Associate Dean for Diversity & Inclusion. Dr. Gaspar de Alba is a respected Las Vegas Pediatrician with leadership role in the medical community.

Plans for future hires: 130 faculty from the University of Nevada School of Medicine located in Las Vegas will transfer to UNLV as of July 2017, prior to the School of Medicine matriculating students in July 2017.

Curriculum: Designed Spring 2015 with a committee of the above faculty and a group of Las Vegas physicians representing the required clinical disciplines of Medicine, Surgery, Obstetrics-Gynecology, Family Medicine, Pediatrics, Anesthesiology, and Neurology.

Space: Classroom and Laboratory space has been identified at the Shadow Lane campus of UNLV, and the education building of the Veterans Administration Medical Center. Faculty office space has been identified at 2040 W. Charleston Blvd.

iv. Recommendations from prior program review and/or accreditation review teams

NA

v. Organizational arrangements that must be made within the institution to accommodate the program

NA

I. Resource Analysis

i. Proposed source of funds (enrollment-generated state funds, reallocation of existing funds, grants, other state funds)

The Nevada State Legislature approved the initial \$26 million dollar funding prior to the end of the 2015 session. Those startup funds will cover operational costs such as faculty, staff, lab equipment, program development, information infrastructure, insurance, and maintenance. Philanthropy has begun to develop as evidenced by the successful completion of the scholarship drive. Funds for capital and academic program development will come from private donations

and other revenue sources. When the school is fully built out, state money will represent roughly 18% of total funding.

- ii. **Each new program approved must be reviewed for adequate full-time equivalent (FTE) to support the program in the fifth year. Indicate if enrollments represent 1) students formally admitted to the program, 2) declared majors in the program, or 3) course enrollments in the program.**

- a. **(1) Full-time equivalent (FTE) enrollment in the Fall semester of the first, third, and fifth year.**

1st Fall semester 60

3rd Fall semester 180

5th Fall semester 240

- (2) **Explain the methodology/assumptions used in determining projected FTE figures.**

The School of Medicine will have a full-time credit load of 31 credits per semester including summer thus the FTE equals the headcount. Research was done by UNLV's Decision Support to learn how other institutions calculated FTE for doctors/professional practice students. FTE is defined by the institutions at their discretion. The first source used is the National Center for Education Statistics. The University of Wisconsin-Madison states that "Full-time course-loads equaling the headcount if all students are expected to attend full-time". The Ohio Board of Regents states "Full-time-equivalent student in medical programs means the headcount of students enrolled for the degrees doctor of medicine, doctor of osteopathy, doctor of veterinary medicine, and doctor of dental surgery".

The UNLV School of Medicine will have an entering class of 60 students per year until a new building permits the class size to expand. Any increase in class size beyond 60 is contingent upon approval of the Liaison Committee on Medical Education which accredits medical schools. The curriculum takes four years to complete with a total of 376 credits. It is expected that the graduation rate will be very close to 100%.

- b. **(1) Unduplicated headcount in the Fall semester of the first, third, and fifth year.**

1st Fall semester 60

3rd Fall semester 180

5th Fall semester 240

- (2) **Explain the methodology/assumptions used in determining projected headcount figures.**

The UNLV School of Medicine will have an entering class of 60 students per year until a new building permits the class size to expand. Any increase in class size beyond 60 is contingent upon approval of the Liaison Committee on Medical Education which accredits medical schools. The curriculum takes four years to complete with a total of 376 credits. It is expected that the graduation rate will be very close to 100%.

iii. Budget Projections – Complete and attach the Five-Year Budget Projection Table.

See Attachment 5.

J. Facilities and equipment required

i. Existing facilities: type of space required, number of assignable square feet, space utilization assumptions, special requirements, modifications, effect on present programs

A new medical education building of approximately 125,000 square feet will be built. The funds for this will be generated from philanthropy. A ten-acre location has been identified near the Shadow Lane campus where the UNLV School of Dental Medicine resides. It is in the City of Las Vegas Health District and near the University Medical Center. Clark County owns this parcel and has agreed to reserve it for the purpose of the school of medicine. In the interim, tentative approval from the Veterans Administrative Medical Center (pending formal agreements and approval by the Central VA) has been obtained that will allow for the rent/use of 10,000 square feet of space in the Veterans Administrative Medical Center medical education facilities for the first several years of the school of medicine.

ii. Additional facilities required: number of assignable square feet, description of space required, special requirements, time sequence assumed for securing required space

Office space for faculty at 2040 W. Charleston Blvd.

iii. Existing and additional equipment required

Virtual Anatomy Laboratory

Computer classroom with capacity to deliver virtual histology

K. Student services required – Plans to provide student services, including advisement, to accommodate the program, including its implications for services to the rest of the student body

Student services for the School of Medicine will be separate from the student services for other UNLV students.

Basic services including but not limited to admissions, recruitment & outreach, financial aid, library, and more specific services of clinical simulation, residency/fellowships, anatomy labs, and malpractice insurance will be included.

L. Consultant Reports – If a consultant was hired to assist in the development of the program, please complete subsections A through C. A copy of the consultant’s final report must be on record at the requesting institution.

i. Names, qualifications and affiliations of consultant(s) used

The consultant firm Tripp Umbach was commissioned by the Lincy Institute (conducts and supports research that focuses on improving Nevada's health, education, social services, and IT infrastructure, <http://www.unlv.edu/lincyinstitute/>) to prepare an economic impact report to show the value of a new, four-year allopathic medical school in Las Vegas. To accomplish this task, an evaluation of multiple medical school development models was conducted in order to recommend the model that would provide the greatest economic impact to the state of Nevada and the Las Vegas Metropolitan area and provide citizens with increased access to medical care providers.

The objectives of the study included:

- Evaluate the market need of adding a new four-year medical school to the state of Nevada, specifically in the Las Vegas region.

- Determine the size of a new four-year medical school to meet market demand and to expand the Nevada economies.
- Estimate the initial facility cost of a new four-year medical school and the return on investment over time.
- Profile the multiple economic benefits associated with the operations of a new four-year medical school in Las Vegas and the state of Nevada.

The firm has a reputation as an expert in the planning and development of new medical schools and has worked with over 20 educational institutions and hospitals on medical education. It employs senior consultants which include medical school deans and administrators.

ii. Consultant’s summary comments and recommendations

See section i.

iii. Summary of proposer's response to consultants

In partnership, the Nevada System of Higher Education, the University of Nevada, Reno, the University of Nevada, Reno School of Medicine, and the University of Nevada, Las Vegas developed a Memorandum of Understanding (MOU) in 2013 in which the expansion and enhancement of public medical education in Nevada was endorsed. In 2014, the MOU was amended and stated that a new, independently accredited medical school at UNLV would be created rather than position it under the accreditation of the University of Nevada, Reno School of Medicine.

M. Articulation Agreements

i. Articulation agreements were successfully completed with the following NSHE institutions. (Attach copies of agreements)

The University of Nevada, Las Vegas School of Medicine will be an independently accredited, full scale, four-year allopathic medical school.

ii. Articulation agreements have not yet been established with the following NSHE institutions. (Indicate status)

NA

iii. Articulation agreements are not applicable for the following institutions. (Indicate reasons)

The University of Nevada, Las Vegas School of Medicine will operate independently from the University of Nevada School of Medicine in Reno.

The school is a key part of meeting the health care needs of southern Nevada's growing population, particularly in the areas of mental health and addiction, neuroscience, cardiology, cancer, and orthopedics. It will also have a local economic impact of more than \$1 billion annually and create 8,000 jobs by 2030. It will make the community a healthier place to live and will bring direct economic impact in terms of fostering a biotech economy and keeping southern Nevada's health care dollars local.

N. Summary Statement

The UNLV School of Medicine will be a catalyst and driver for better health care for southern Nevada. It will also bring economic growth in the health care sector. The school of medicine will recruit and educate a diverse student body who will stay in Nevada both to practice medicine and teach. These urban doctors will understand and value the cultural aspects of medicine.

After the first ten years, the school of medicine will be fully accredited, have graduated over 500 students, recruited over 120 faculty, increased the number of physicians staying and practicing in Nevada, and generated \$4 for every \$1 of state investment per year.

New Academic Program Proposal Five-Year Cost Estimate

Institution: UNLV Program: M.D. Degree Semester of Implementation: Fall 2017

DIRECTIONS: Complete the following cost estimates for the first, third, and fifth year budget projections for the proposed new program in Section A. If the total budget for the program is not reflected in the "Existing" or "New" categories, please provide further explanation in the space provided below (EXPLANATION). Any "new" costs must be noted by source in Section B.

STUDENT FTE	Year 1(FY 18): <u>60</u>				Year 3(FY20): <u>180</u>				Year 5(FY22): <u>240</u>			
Section A.	Year 1/Start-up				Year 3				Year 5			
	Existing ¹	New ²	Total	FTE	Existing ¹	New ²	Total	FTE	Existing ¹	New ²	Total	FTE
PERSONNEL												
Faculty (salaries/benefits) ³	0	6,019,794	6,019,794	20.0	6,019,794	6,766,820	12,786,614	59.0	12,786,614	10,179,477	22,966,091	104.0
Graduate Assistants	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
Support Staff	0	604,009	604,009	10.0	604,009	461,771	1,065,780	14.0	1,065,780	343,372	1,409,152	18.0
Fellowships/Scholarships	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
Personnel Total	\$0	\$6,623,803	\$6,623,803	30.0	\$6,623,803	\$7,228,591	\$13,852,394	73.0	\$13,852,394	\$10,522,849	\$24,375,243	122.0
OTHER RESOURCES												
Library Materials (printed)	0	0	0		0	0	0		0	0	0	
Library Materials (electronic)	0	980,034	980,034		980,034	757,656	1,737,690		1,737,690	141,152	1,878,842	
Supplies/Operating Expenses	0	1,510,000	1,510,000		1,510,000	1,668,580	3,178,580		3,178,580	1,342,932	4,521,512	
Equipment	0	1,873,181	1,873,181		0	1,250,000	1,250,000		0	1,250,000	1,250,000	
Other Expenses	0	510,000	510,000		510,000	1,228,000	1,738,000		1,738,000	1,495,000	3,233,000	
Other Resources Total	\$0	\$4,873,215	\$4,873,215		\$3,000,034	\$4,904,236	\$7,904,270		\$6,654,270	\$4,229,084	\$10,883,354	
PHYSICAL FACILITIES												
Major Renovation	0	0	0		0	0	0		0	0	0	
Other Facility-Related Expenses	0	906,176	906,176		906,176	906,176	1,812,352		1,812,352	906,178	2,718,530	
Physical Facilities Total	\$0	\$906,176	\$906,176		\$906,176	\$906,176	\$1,812,352		\$1,812,352	\$906,178	\$2,718,530	
TOTAL	\$0	\$12,403,194	\$12,403,194		\$10,530,013	\$13,039,003	\$23,569,016		\$24,376,417	\$15,658,111	\$37,977,127	
<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div>												
Section B.	Amount		%		Amount		%		Amount		%	
EXPLANATION OF "NEW" SOURCES²												
Tuition/Registration Fees	1,656,000		13.4%		4,968,000		38.1%		6,624,000		42.3%	
State Support	10,747,194		86.6%		8,071,003		61.9%		9,034,111		57.7%	
Federal Grants/Contracts	0		0.0%		0		0.0%		0		0.0%	
State Grants/Contracts	0		0.0%		0		0.0%		0		0.0%	
Private Grants/Contracts	0		0.0%		0		0.0%		0		0.0%	
Private Gifts	0		0.0%		0		0.0%		0		0.0%	
Other (please specify)	0		0.0%		0		0.0%		0		0.0%	
TOTAL	\$12,403,194		100.0%		\$13,039,003		100.0%		\$15,658,111		100.0%	

¹Resources re-allocated from existing programs in Year 1 should be noted in the "Existing" column. In addition, "New" costs from Year 1 that will continue in the third and fifth year should also be noted in the third and fifth year as "Existing."

²Any "New" resource utilized to fund a new program must include the source to be provided in the "Explanation of New Sources" section. Total "New" sources for each year must equal the total for each year under "Explanation of New Sources."

³Budget estimates for faculty salaries and benefits must include estimated merit and COLA increases in Year 3 and Year 5.

EXPLANATION (Please provide any additional information pertinent to the budget projection, including for example, explain for any new funding sources that are not guaranteed receipt by the institutions how the program will make-up for the potential loss in expected new funding.): **NA**

Budget Overview: The UNLV School of Medicine started the development of its short term (FY16 and FY17) and long-term (FY18-FY25) budget more than a year and half ago. The fiscal year 2016-17 budget was approved by the Nevada System of Higher Education (NSHE) Board of Regents, Gov. Brian Sandoval and the Nevada legislature. Like any budget, the UNLV School of Medicine's initial budget, was an estimate of projected needs, and in this case, well beyond the 2015-17 biennium and 10 years into the future. The initial budget presented a reasonable estimate of overall expenses and as with any budget, adjustments will be expected to account for cost differences and/or changes in the project over time. 1% COLA is included in all salaries and benefits FY18 through FY22. Note: All figures in FY16 dollars.

Supplies/operating expenses include consultation to ensure the school is set up appropriately to accreditation standards, legally for the practice plan, community clinics, and GME.

Equipment includes anatomy lab, technology devices for students, teleconference capabilities.

Other expenses include basic supplies for offices, phones, medical and teaching supplies.

General Competencies						
Medical Knowledge	Patient Care	Communication Skills	Professional Development	Practice-Based Learning and Improvement	Systems-Based Practice	Nevada Community Engagement

MD Curriculum Educational Program Objectives

Location in Curriculum (LC)

1. Foundations Phase; 2. Clerkships; 3. Doctoring; 4. Learning Communities
5. Nevada Community Medicine; 6. Intersessions; 7. Scholarly Project

Educational Program Objectives	LC	General Competencies							Outcome Measures
		Medical Knowledge	Patient Care	Communication Skills	Professional Development	Practice-Based Learning and Improvement	Systems-Based Practice	Nevada Community Engagement	
1. Apply the principles of anatomy, behavioral science, biochemistry, cell biology, genetics, immunology, microbiology, pharmacology, and physiology to determine etiology, pathophysiology, prevention, and treatment of critical human disorders.	1	X	X						NBME,SGF, SGP
2. Communicate effectively with patients, families, and other health care professionals, including situations involving language barriers and professional interpreters.	2, 3, 5		X	X	X		X		OSCE, PE, SGF, SGP
3. Conduct and document complete medical history and physical examination, recognize confounding factors of age, gender, ethnicity, cultural background, socioeconomic status, family history, and emotional state.	2, 3, 5, 6	X	X	X	X			X	OSCE
4. Demonstrate advanced clinical problem solving skills to develop differential diagnoses using epidemiology, time course, clinical presentation, and mechanisms of disease.	1, 2, 3	X	X						CE, OSCE, PE (Oral Exam), SGF, SGP
5. Identify and propose initial therapy for acute life-threatening situations.	2, 3	X	X						ACLS/BLS, OSCE
6. Identify and propose a management plan for chronic disease.	2, 3, 5	X	X				X		NBME, PE
7. Identify end-of-life care issues including palliative care from the physician's, patient's, and family's perspectives.	2, 3		X		X				CE, SGF, SGP
8. Provide appropriate patient-centered counseling techniques to improve patient outcomes, patient satisfaction, and appropriate use of health care resources.	2, 3, 5, 6	X	X	X	X				OSCE, PE
9. Correctly perform basic procedural skills with attention to patient comfort.	3	X	X						PE
10. Apply knowledge of nutrition, hospitality principles, pain management, complementary and alternative medicine to patient care.	2, 3, 5, 6	X	X		X				CE, SGF, SGP
11. Integrate epidemiologic, socioeconomic, behavioral, cultural, and community factors into patient care.	1, 2, 5		X		X	X		X	OSCE, PE, SGF, SGP
12. Formulate clinical questions and apply evidence (evidence based medicine) to provide quality health care to individuals and populations.	2, 4	X	X		X	X		X	CE, PE, SGF, SGP
13. Identify the personal skills and systems-level processes that support continuous quality improvement and patient safety.	3, 6			X	X		X		CE,OSCE, PE, SGF, SGP
14. Discuss the core financial, legal, structural, policy, and regulatory aspects of the US health care system and their impact on the delivery of health care.	3, 5, 6				X		X	X	CE
15. Advocate to improve health outcomes at the community level through community engagement and the analysis of social determinants of health and disease.	5	X	X	X	X	X	X	X	CAPSTONE, SGF, SGP
16. Demonstrate personal accountability altruism, humanism, and self-awareness in the care of patients, self and others.	2, 3, 5		X		X				CE, SGF, SGP
17. Practice scholarship based on scientific research methods.	7	X			X				CE, SE
18. Anticipate ethical issues encountered in clinical care and research, explain ethically justifiable options and consequences from multiple perspectives, and manage ethical challenges in medical practice and research.	3, 4, 6, 7			X	X			X	OSCE, SE, CE, SGF, SGP

ACLS/BLS = Advanced Cardiac Life Support/Basic Life Support; Capstone = project leading to scholarly presentation; CE = Course Exam; NBME = National Board of Medical Examiners Exams; OSCE = Objective Structured Clinical Examination; PE = Preceptor Evaluation; SE = Self Evaluation; SGF = Small Group Faculty Evaluation; SGP = Small Group Peer Evaluation

Office of Assessment & Learning

Assessment & Learning Mission

To deliver excellent assessment and learning support for students and faculty at the School of Medicine

The Goals of Assessment in Medical Education

- Guide and enhance student learning
- Demonstrate mastery of:
 - core body of knowledge essential for clinical practice
 - critical thinking skills, clinical and communication skills, and professionalism necessary to apply knowledge in clinical practice
 - ability to find, analyze, and interpret new data necessary to clinical practice
- Guide faculty teaching efforts
- Provide basis for making student progress decisions
- Inform curricular development and quality improvement
- Fulfill institutional and reporting responsibilities

Benefits to Students from Assessment

Assessment:

- Is a learning method
- Directs student learning effort
- Conveys to the students what the faculty thinks is important
- Measures student progress in learning
- Prepares students for life-long self-assessment and learning
- Motivates students

Risks to Students from Assessment

Assessment must be high quality since it has a powerful impact on student learning. As with any powerful intervention assessment can be harmful if not applied with judgment, knowledge, and skill. Poorly done assessment can undo each of its benefits, can result in learning incorrect information and can leave students feeling hopeless when assessment and learning objectives are not aligned.

Criteria for Effective Assessment

1. A clear statement of intended learning outcomes
2. A variety of assessment procedures
3. Integration of intended learning outcomes of, the learning tasks, and the assessment procedures
4. Adequate sampling of student performance
5. Equitable procedures for all participants
6. Explicit, specific criteria are used in judging successful performance
7. Timely feedback to students that emphasizes strengths of their performance and focuses their attention on specific areas in need of improvement
8. A grading and reporting system that is fair and equitable

Purpose of assessment in UNLV School of Medicine Curriculum

The purpose of assessment is to:

- Support student learning through assessment processes that are consistently implemented across the curriculum
- Support faculty development in assessment theory, methods, and implementation
- Monitor and provide an ethical, equitable assessment process and environment for students
- Provide timely, accurate assessment data to students, faculty and the institution
- Maintain state-of-the-art expertise around of performance assessment and human simulation

Guiding principles for assessment at UNLV SOM

- Relatively few high-stakes summative examinations
- Frequent formative & lower stakes summative examinations
- Criterion-referenced standards
- USMLE style multiple choice questions
- Assessment that is linked to the student learning objectives
- Examinations reflect all aspects of the curriculum (e.g., clinical skills, tutorials, ethics and professionalism) to emphasize patient care values
- Consistency in assessment standards and practices among curricular components

Assessment Implementation Aspirations UNLV SOM

Curricular Framework:

- A coherent assessment framework for the curriculum is established at the level of the school (as opposed to the course level)
- Test methods and items will be developmentally appropriate to the students' expected level of learning
- Accountability and assessment will be integrated into the daily learning experience.
- Assessment will be linked to the learning objectives and the content database.

Testing Methods:

- Multiple methods will be used, as all assessment methods have limitations and no one method can assess all skills of interest
- Assessment will reflect synthesis and application of pertinent knowledge
- Formative and summative assessments will be congruent

Peer Review:

- Assessment methods and items will be pilot tested
- Test items will be peer reviewed

Standards:

- Criterion-based assessment standards will be appropriate to the student's expected level of learning
- Minimum standards are established prior to examinations

Reporting:

- Feedback to the students will be timely
- Feedback to the faculty (course faculty, advisors, deans etc.) will be timely.

Innovations:

- Up-to-date methods of test development, test administration and grading will be used

Definitions

Assessment	“...all the various methods [used] for determining the extent to which students are achieving the intended learning outcomes of instruction.”
Performance Assessment	“...assessments requiring students to demonstrate their achievement of understandings and skills by actually performing a task or set of tasks (e.g., writing a story, giving a speech, conducting an experiment, operating a machine).”
Formative Assessment	Assessment used to provide feedback to the student and the teacher so changes can be made.
Summative Assessment	Formal assessment that document student performance for the record and judge success

Comparison of Summative and Formative Assessment

	Formative	Summative
Purpose	Improvement	Judgment
Timing	Frequent and throughout	Milestones and at the end
Evaluator	Teacher and learner	Teacher
Use	Feedback to student and learner Find misconceptions Identify strengths and weaknesses Change future teaching Develop learning plan	Assign grades Judge competence Certify mastery Promotion

Overview of Assessment for the Medical Students

The assessment of student learning is highly valued at UNLV School of Medicine. The UNLV School of Medicine endeavors to apply assessment principles consistently across blocks, courses and phases. To that end the faculty not only plan their assessments to best sample and reflect student learning, but also, to optimally demonstrate institutional values to students by presenting an emphasis on learning objectives and knowledge in conjunction with patient care skills throughout the curriculum. The assessment program emphasizes the feedback loop – both to the students and to the faculty and thus the curriculum.

This comprehensive approach to student learning assessment is anchored by a set of guiding principles. Assessments are clearly linked with the student learning objectives and the associated learning experiences. The standards of student achievement are criterion-referenced. Formative assessment is frequent and integrated into students’ routine learning experiences. In contrast, high stakes summative examinations are less frequent and scheduled at intervals to evaluate students’ cumulative knowledge. Knowledge and skill assessments include items and methods that are developmentally appropriate. Major

summative examinations include multiple competencies to reflect all aspects of the curriculum, e.g., clinical skills, communication skills, ethics and professionalism. Multiple assessment methods are used including: multiple-choice and essay exams, laboratory practical (identification and concepts), and performance exams that use both standardized patients (clinical and communication skills, and professionalism) and mechanical simulation stations (procedures, suturing, etc.). The multiple-choice examinations are National Board of Medical Examiners (NBME) customized assessments. Critical reasoning is assessed in a formative manner during problem-based learning tutorial sessions, in the doctoring courses, and in a summative manner using various essay, homework assignments and patient note writing tasks.

In addition to locally developed exams, UNLV SOM administers nationally standardized examinations in order to provide our students with national benchmarks of how their knowledge is progressing. Students take the Comprehensive Basic Science Examination (CBSE) in the Foundations Phase and clinical subject exams (e.g., Pediatrics, Family Medicine) in the Clerkship Phase.

Timely reporting of exam results to students and to faculty is very important. Formative exam results are generally available almost immediately so they have maximal feedback utility for student learning and for faculty to redirect the curriculum if necessary.

The UNLV SOM curriculum is based on seven competencies: Nevada Community Engagement, Medical Knowledge, Patient Care, Communication Skills, Professional Development, Practice-based Learning and Improvement, and Systems-based Practice. The learning objectives that follow from the seven competencies are used to plan student assessment. In student assessment, for example, multiple choice questions and standardized patient case problems are designed to address specific course learning objectives, and those course objectives are linked to the global learning objectives. This tight association allows the faculty to investigate the origin of failed learning and determine if the issue is lack of clarity about the learning objective, missed curricular emphasis, poorly targeted assessment, or other intrinsic or extrinsic factors influencing a student's educational experiences.

Written Examinations

The blocks are required to inform students, both orally and in writing, on the first day of the block how grades will be determined. Criteria for passing the block is also included in the syllabus.

Written exams in the integrated organ system blocks are NBME Customized assessments. Critical reasoning is assessed using various essay, homework assignments and patient note writing tasks.

Course faculty review the questions and the item parameters to see if they are performing as intended in terms of difficulty and discrimination. The results from the multiple-choice tests are combined with other assessment results, such as the laboratory and the essay exams, using the percentages equations that were provided to the students at the beginning of the course or block. The final score spreadsheets are prepared in the office of Assessment & Learning and reviewed by the block committee. Once the block chair and/or block committee affirms the pre-established cut point (usually 70%) the grades are finalized and the scores are posted to the students. Students use their code numbers to identify their final grade. Only after the scores are posted to the students are faculty able to associate student names with the final grades.

Summative Examinations

The Foundation Phase end of block exams are summative. The Clerkship Phase Clinical Subject exams (shelf boards) are summative. The Clinical Performance Examinations (OSCEs) have a greater emphasis on performance assessment methods and are formative for the students, but they must retake the

examination until they demonstrate competency.

Standardized Patient (SP) Program

The standardized patient program provides well-trained, dedicated people to help students learn to be excellent clinical practitioners. SPs are on-call, part time UNLV employees who are trained to portray patient cases so that students can practice and measure the development of their patient care skills. They provide the opportunity for students to practice, learn, and demonstrate interviewing, physical examination, and communication skills. SPs are used throughout the curriculum for student learning and performance assessment. SPs are selected on the basis of their demographic profile, which must match the patient case demographics, and on their experience and facility with the skills, e.g., verbal feedback to the student, or improvisation, needed for the student interaction. This careful SP selection supports authentic patient case representation and the best match of SP experience with the learning activities associated with the interaction. The goal is to provide the students with opportunities to practice and receive high quality feedback. SPs may give oral feedback to the students and/or complete assessment instruments based on their observations. The reliability of the quantitative data is assured direct observation of the accuracy of case portrayal by the case trainer, through percent agreement procedures, and through review of statistical scoring groups.

The Standardized Patient Program supports the Doctoring courses by training SPs to perform cases for medical students' skill development. In small groups with faculty preceptors, students practice their new communication, interview, and physical examination skills. Case variations allow the SPs to introduce variety in the patient's case information. This benefits student learning and creates more flexibility and challenge for learning. In both learning and assessment contexts, students receive constructive verbal feedback from the SP about how it "felt to be their patient."

SP training specialists consistently monitor various types of quality. Trainers observe case portrayal and information accuracy to monitor SP performance quality. The ability of SPs to score reliably, and their ability to be trained to reach standardization in training sessions is also monitored. Quality monitoring of the SPs check listing reliability includes percent agreement statistics and scoring groupings among individual SPs. Score verification is conducted for any when any SP falls into an outlier category and the student's overall score is below standard. The training specialists complete a feedback form to provide timely feedback to SPs on how their performance specifically did or did not meet established program expectations. The longitudinal information is used to monitor the quality of standardized patients' accuracy, to monitor SP response to feedback and training, and to inform future casting decisions.

Patient Case Blueprinting

There is a master blueprint for summative assessment using standardized patients. Of primary importance is that the patient cases relate to student learning objectives for both communication and clinical skills. Additionally, the cases are mapped so that students encounter a relatively equal number of men and women and that, in so far as possible, the patients represent the full age spectrum – from infancy to the elderly. The blueprint repeats in two-year cycles to allow sampling across a greater number of patient presentations. The two-year cycle also prevents students who are out of sync in their academic progress from seeing the same cases twice. The standardized patient cases are also mapped to portray four differing communication styles in proportions that represent styles found in the general population. The instructions that are associated with the standardized patient cases change as the students' level of experience increases. For example, a first year student will be instructed to perform a "screening neurologic exam" while a third year student is instructed to "perform the appropriate physical examination" and the nature of that physical examination it is up to the student. In a similar manner the standards set for performance reflect increasing student competency.

Students evaluate a total of 11 summative standardized patient cases in the Foundations Phase and another 15 standardized patient cases in the Clerkship Phase.

Communication Skills

The Communication Skills curriculum begins formally in the Phase I Year 1 Doctoring course and continues throughout all four years in the Doctoring courses. The communication curriculum uses the *Gap-Kalamazoo Communication Skills Assessment Form*, a validated scale, both as a teaching tool and as an assessment instrument. Consistent use of this tool supplies students with clear behavioral anchors that apply in all learning settings and conveys the value placed on communication in patient care. Beyond the formal curriculum, skilled faculty provide learning support for healthcare communication skills, including collaborative videotape and checklist review.

Clinical Skills

Students are instructed in history taking and the physical examination during the initial Immersion course and in the Doctoring courses in the Foundations phase. Students have the opportunity to practice on one another and on actual patients. They also have the opportunity to practice and receive feedback from 8 SPs who are trained to have variable presentations to optimize learning efficiency. In the organ system blocks throughout the Foundations phase the students revisit the evaluation of body systems as they relate to block content. For example, students learn the neurological examination during the Doctoring course but they revisit the exam, learn variations and some branching exams and have more opportunity to practice during the Neurosciences block. During the organ system blocks students also have precepted practice sessions with one another and with additional standardized patients.

Ethics and Professionalism

Students are tested on their knowledge of ethical principles and their ability to apply ethical reasoning in a clinical context throughout all phases of the UNLV medical school curriculum. Students have five summative ethics assessments during the Foundations Phase, three summative ethics assessments during the Clerkships Phase, and a summative assessment in association with the required Nevada Community Medicine rotation during the Career Preparation and Scholarship Phase.

UME Summary Table of Multi-method Assessments	
Foundations Phase	
October 2017	<p>Formative elements:</p> <p>History taking and Communication Skills: At mid-point in the first Doctoring course, students experience their first performance assessment. The objective of this assessment is to complete one standardized patient (SP) encounter with emphasis on communication and history gathering skills. That this is a formative examination gives them the opportunity to prepare for subsequent assessments that are summative. The standardized patient encounter is history only that allows the students to demonstrate the communication skills that they have practiced. Following the encounter, the students receive feedback from a standardized patient and a faculty who has observed the encounter in the monitor room. The recording of the student’s encounter is sent with them on a DVD. They are required to review their encounter and write a reflective essay about what they observed that they want to keep doing, start doing, and stop doing. This is submitted for review to their Doctoring small group preceptor.</p> <p>Ethics & Professionalism: Students take the first formative test of ethics principles in their Learning Communities course.</p>

November 2017	<p>Medical Knowledge: Students have formative laboratory examinations in Histology and Anatomy.</p> <p>Summative elements: Medical knowledge: The students have a summative multiple-choice examination in Foundations of Medical Science and laboratory examinations in Histology and Anatomy.</p> <p>The students have a summative multiple choice examination in Hematology and Cancer and a laboratory examination in Histology.</p>
December 2017	<p>Summative elements: Clinical (History, Physical examination) and Communication Skills: This performance assessment entails one SP case and allows students to conduct a complete physical examination. The students are scored on checklists that evaluate their ability to gather effective historical information, perform a comprehensive examination, and communicate effectively with a patient within a simulated clinical encounter. The students again receive feedback from SPs. The score for this exam includes the case checklist with history and physical examination items, communication skills score, student clinical write up and associated MCQs.</p> <p>Ethics & Professionalism: Essay exam on block related topics</p> <p>Medical Knowledge: The students have a summative multiple choice examination in Musculoskeletal/Skin and a laboratory examination in Histology and Anatomy.</p>
February 2018	<p>Summative elements: Clinical (History, Physical examination) and Communication Skills: This performance assessment includes two patient cases and begins the emphasis on focused examinations. In this case the emphasis is on the neurologic and on the mental status examination. The score for this exam includes the case checklists with history and physical examination items and communication skills scores.</p> <p>Ethics & Professionalism: Essay exam on block related topics</p> <p>Medical Knowledge: The students have a summative multiple choice examination in GI, Endo, Repro and laboratory examinations in Histology and Anatomy.</p>
May 2018	<p>Summative elements: Clinical (History, Physical examination) and Communication Skills: This performance assessment includes three patient cases and begins the emphasis on focused examinations. Although the emphasis is on cardiovascular, pulmonary, and renal complaints since this is the last exam of the first year students can also expect The score for this exam includes the case checklists with history and physical examination items and communication skills scores.</p> <p>Ethics & Professionalism: Essay exam on block related topics</p> <p>Medical Knowledge: The students have a multiple choice examination in Cardiovascular/Pulmonary/Renal and laboratory examinations in Histology and Anatomy.</p>

UME Summary Table of Multi-method Assessments

Foundations Phase Year 2

October 2018	<p>Summative elements:</p> <p>Clinical (History, Physical examination) and Communication Skills: This performance assessment includes two patient cases. Because students have now completed their PIE experience they are no longer told which body systems to examine. One of the two cases is less focused (students are given more time) to reinforce the complete patient context. The emphasis is on GI/Nutrition related complaints and lifestyle counseling. The score for this exam includes the case checklists with history and physical examination items and communication skills scores.</p> <p>Ethics & Professionalism: Essay exam on block related topics</p> <p>Medical Knowledge: The students have a multiple choice examination in Neurosciences and laboratory examinations in Histology and Anatomy.</p>
November-December 2018	<p>Summative elements:</p> <p>Clinical (History, Physical examination) and Communication Skills: This performance assessment includes three patient cases. The focused evaluations include neuroscience and multisystem disease-related evaluations but since this is the last exam of Phase I-2 students can also expect to be assessed on the evaluation of another body system. The score for this exam includes the case checklists with history and physical examination items and communication skills scores.</p> <p>Ethics & Professionalism: Essay exam on block related topics</p> <p>Medical Knowledge: The students will have a multiple choice examination in Neurosciences and laboratory examinations in Histology and Anatomy in November 2018. The students will have a multiple choice examination in Multi-system Disease in December 2018.</p>

Foundations Phase Grades (explanation for students)

Block Content	Competency Exam	Competencies				Tutorial
		Knowledge	Clinical Skills	Communication Skills	Ethics & Professionalism	
FMS		P/F	Formative	Formative	Formative	P/F
MSK	1	P/F	--	--	--	P/F
H/C	2	P/F	I	I	I	P/F
GI/Endo/R	3	P/F	I	I	I	P/F
CV/Pulm/Renal	4	P/F	I	I	I	P/F
			P/F	P/F	P/F	
Neuroscience	5	P/F	I	I	I	P/F
ID	6	P/F	I	I	I	P/F
MultiSystem			P/F	P/F	P/F	

Summative (Transcript) = Red

Formative

Interim = I

Doctoring = Credit/No credit

Learning Communities= Credit/No credit

Primary Care Continuity Clinic = Credit/No credit

Nevada Community Service= Credit/No credit

Foundations Review= Credit/No credit

Transitions Block = Credit/No credit

In the table above the scores for each Competency Exam (CE) are broken down by the competencies of Knowledge (block-specific content questions), Clinical skills, Communication skills, and Ethics & Professionalism. Competency Exams 1-4 occur in Foundations Phase first year and Competency Exams 5&6 in Foundations Phase second year. Within the summative exam table, all grades in red represent a grade that is on students' transcripts.

- The **Knowledge** score appears on the student's transcript, representing a total of about 87.5% of the student's Phase I grade.
- For summative exam scores for **Clinical Skills, Communication Skills, and Ethics & Professionalism**:
 - The score from Competency Exam 1 in each of these three competencies is formative and is not averaged into any final grade.
 - The scores for each competency from exams 2-4 are averaged and recorded as separate grades on students' transcripts for Foundations Phase first year.
 - The scores for each competency from summative exams 5 & 6 are averaged and recorded as separate grades on students' transcripts for Foundations Phase second year..
 - Although the competency scores for Communication Skills, Clinical Skills, and Ethics and Professionalism are reported to students after each summative examination, only the averaged scores for each competency appear on students' transcripts.

For each summative exam, there is a separate column marked **Tutorials**. Students receive verbal feedback frequently throughout the block. Formative written quantitative and narrative assessment at the midpoint of each block and summative quantitative and narrative assessment at the end of each Block. Peer assessments are provided frequently throughout the course of the block and written peer assessment is provided at the midpoint of each Block. Satisfactory completion of a block and the associated summative examination requires satisfactory tutorial performance. Students must obtain a "pass" in tutorial for each block. A "fail" tutorial grade precludes successful completion of a block, even if the summative examination is satisfactory.

UME Summary Table of Multi-method Assessments	
PHASE 2	
<p>OSCE 1-- August</p> <p>OSCE 2--December</p> <p>OSCE 3 -- March</p>	<p>OSCEs are scheduled three times during the longitudinal integrated clerkship experiences. The first OSCE scheduled in August is formative, the second in December, and the third in March are summative. Students who are scoring well in the OSCE domains are advised to schedule their USMLE Step 2-CS soon after the third OSCE. Grade is comprised of scores earned across all OSCEs (15 cases)</p> <p>Clinical Cases: Each OSCE has 5 cases which have both clerkship specific content as well as general content from patient cases which could be encountered in most clinics</p> <p>Skills Stations: Every clerkship designs skills stations that are representative of their learning objectives. Students demonstrate competence in a variety of skills. For example, skills include: interpreting EKGs and CXRs, suturing, inserting nasogastric tubes and foley catheters, recognizing dermatological problems from a photograph. The Skills Stations provide immediate feedback to the students.</p>

Phase II Clinical Performance Examination (explanation for students)

What:

For each grouping there will be:

- Standardized patient stations. 15 minutes each
 - Three followed by 10 minutes for patient write-ups in Calibrated Peer Review™
 - Two followed by 5 minute feedback sessions
- Skills stations
 - Up to 14, eight minute skills stations (fewer if 18 minute stations)

How:

The five scoring domains and their parameters:

1. Clinical skills (History and physical examination)
 - Faculty generated checklists
2. Communication skills
 - Gap-Kalamazoo Communication Skills Assessment Form
3. Clinical note writing
 - UNM clinical note scoring grid as applied during Calibrated Peer Review™
4. Ethics and professionalism
 - Faculty scored essays
5. Skills stations
 - Perform task while an observer completes a checklist
 - Given a task, respond to short answer or multiple choice questions

In order to receive Credit for the OSCE students must complete all portions of the exam, including the portions of the note-writing task that happen after the testing day. Presently students must meet the faculty-established standard in at least three of the five test domains in order to receive credit for an individual examination. In addition students must demonstrate competency in communication skills, clinical skills and clinical note writing over the course of all three examinations.

Grading:

The performance examinations are graded Credit / No credit. Each of the three Clinical Performance Examinations is recorded on the SOM database and the UNLV transcript. If a student does not receive credit (NCr) on OSCE 1 and but successfully receives credit (Cr) on OSCE 2, the OSCE 1 score will be

updated from NCr to Cr. A student who does not receive credit on OSCE 3 will need to successfully complete a fourth performance examination. Successful completion of all three of the Phase II Performance examinations and demonstration of competence in communication skills, clinical skills and clinical note writing is required for promotion into the Career Preparation and Scholarship Phase.

Required Competency Remediation:

Students who have not demonstrated competency in communication skills, clinical skills or clinical note writing after the each performance exam will be required to participate in additional activities to support skill development. Students who continue to have below standard performance after their final performance examination will also be required to participate in additional activities.

Example: ~~~~~

<p><u>UNM SOM Clerkship Performance Objectives:</u></p> <p>Students will be able to diagnose patients presenting with:</p> <ol style="list-style-type: none"> 1. Abdominal pain, acute – IM - Surgery- Peds 2. Abdominal, groin mass/pain - Surgery 3. Abscess - Surgery 4. Altered mental status – IM – Neuro - Peds 5. Anxious – FM - Psych 6. Back pain – FM - Neuro <p>Procedures:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cervical culture- OB <input type="checkbox"/> Immunization administration - Peds <input type="checkbox"/> Intravenous catheter insertion – Surgery <input type="checkbox"/> Intubation, endotracheal – Surgery <input type="checkbox"/> Joint aspiration / injection - FM <input type="checkbox"/> Liquid nitrogen use - FM <input type="checkbox"/> Lumbar puncture - Neuro

This student will spend a morning seeing five standardized patients. The student will write clinical notes after three of the patient evaluations. These notes will be entered into the Calibrated Peer Review™ computer program.

In the afternoon, this same student will complete an Ethics and Professionalism exercise and up to 14 skills stations. Skills stations are short, either eight or 18 minutes in length and examples are, X-ray interpretation, IV placement, and responding to laboratory information. Students receive immediate feedback after many of

the skills stations.

This schedule will be reversed for half of the group of 28 students so that some students will begin the day with the skills stations and see the standardized patients in the afternoon.

IM/FM Group	Morning	Afternoon	Feedback loops
Student #1	<ul style="list-style-type: none"> • 5 standardized patients 	<ul style="list-style-type: none"> • Ethics and Professionalism • 10 skills stations 	Faculty SPs Students
Student #2	<ul style="list-style-type: none"> • Ethics and Professionalism • 10 skills stations 	<ul style="list-style-type: none"> • 5 standardized patient s 	

Students end the day in a group debriefing session where faculty will report performance trends and answer student questions. Students then have a couple of days to complete the calibration, peer review and self-assessment portions of the three Calibrated Peer Review™ note-writing assignments.

Gap-Kalamazoo Communication Skills Assessment

The Gap-Kalamazoo Communication Skills Assessment is a validated, behaviorally anchored global rating scale that is based on the 7 essential elements of communication from the Kalamzaoo Consensus Statement. Students are introduced to the instrument during their first week of medical school and it is revisited frequently throughout the curriculum. The instrument helps novice students associate the communication skills curricular objectives with the different aspects of a clinical encounter. The instrument also displays associated communication behaviors across a range of proficiency. The use of the Gap-Kalamazoo Communication Skills Assessment helps students see what is expected of their clinical performance; it helps them understand their score in behavioral terms, providing feedback for learning, and it provides specific information about how to improve performance.

Calibrated Peer Review™ (CPR™)

An example of a method that UNLV SOM will use for both teaching and assessment is Calibrated Peer Review™. This is a web-based software program that is used to teach and measure the quality of clinical note writing. The tool reinforces the values of peer review and self-assessment in addition to providing reliable score outcomes. Students are introduced to this teaching/assessment method in the Transition to Clerkships block and continue to use it throughout Clerkships Phase. After watching a video or evaluating a standardized patient students write a clinical note that focuses on diagnostic reasoning. Students then receive three exemplars, notes of known quality, which were written in response to this same clinical interaction. Students are guided by questions and a rubric to score each of these exemplars. At this point students receive feedback that lets them know if they are scoring the exemplars in the same manner that the faculty have scored them. Students also have the opportunity to read faculty commentary; explanations made by faculty about what was good, what was not good, and what could be improved about the structure and content of the exemplars. At this point students know how closely they are calibrated to faculty thinking. Next, students receive three clinical notes from their peers which they score using the same guiding questions and rubric. Finally, students receive their own note back again and score it using the same rubric. Between writing and scoring their own note students will have seen six different approaches to documenting the same clinical encounter. Students have also reviewed faculty-generated feedback. Students who write a poor quality note have had valuable learning opportunities to prepare them for the next note writing assignment. If they have been able to evaluate accurately and if they have learned to think like faculty, they are much more likely to be able to write a better clinical note the next time around. Research at other schools has demonstrated that students write better notes after several iterations with the Calibrated Peer Review™ process.

Constructive feedback offered to students from Standardized Patients

The purpose of this feedback is to express to a student how it felt to be the student's patient. The SPs receive special skills training to enable them to offer feedback in a manner that is constructive and promotes learning. Feedback is constructed around I-statements including the feelings experiences by the SP in the context of student behaviors that the SP observed during the encounter. Primarily the purpose of the feedback is to help make the student aware of unconscious behaviors that should be reinforced to continue or highlighted for change. Therefore, both effective and ineffective behaviors are validated. Where ineffective behaviors are observed, feedback is structured in the same format. The SPs express their feelings in association with the observed behavior and then suggest changes in behavior that would also be associated with different (more positive) feelings.

Performance Assessments

Students have performance assessments with standardized patients portraying clinical cases. Formative assessment begins in the first month of medical school when faculty precepted small student groups work with standardized patients to learn basic medical interviewing and physical examination skills. For summative assessment students receive six competency examinations in the Foundations Phase. During the Clerkship Phase, students receive formative performance assessments, commonly called Objective Structured Clinical Examinations (OSCEs) every four months. One objective of the OSCE is to prepare students to take the USMLE Step 2CS performance examination with confidence. Each OSCE and all cases are reviewed for continuous quality improvement. Input for improvement comes from student, faculty, program staff and SP feedback. Regular review of statistical quality indicators occurs to assure reliability of student scores. Each OSCE includes skills stations that provide feedback to both students and clerkship directors about the skills curriculum within the clerkships.

Electronic Assessment

A room is configured and equipped to allow the medical school classes to conduct electronic assessments for the class at one time. The room is hard-wired for Internet access for up to 70 computers to make it possible to conduct national exams.

ASSESSMENT PROCEDURES

Standard Setting

Criterion-referenced grading standards are used throughout the curriculum. Assessment outcomes are reviewed at the end of a course or block to be sure the standards are still performing as predicted.

Similarly, in the Clerkship Phase, the clerkship directors agree to uniform procedures for calculating clerkship grades and they will revisit this agreement regularly. For instance, the final exam is weighted at 25% of the clerkship grade. The cut point and the consequences of failing the final exam are consistent across the clerkships and the student outcomes from these decisions are evaluated annually.

Performance standards are also criterion-referenced and are established using a modified Angoff standard setting method. Faculty meet to review the standardized patient cases and use the associated scoring rubrics to establish the minimum acceptable, developmentally appropriate standard. When student assessment results are available, communication and clinical skills committee faculty review the distribution of the scores and review DVDs of students who score above and below the minimum passing mark to determine if the standard is set correctly. We use a rotating blueprint of well-established cases and we use multiple quality control procedures during every performance exam. The performance standards are reviewed annually at a minimum. The reports received by students also clearly reflect where a student is performing relative to the faculty established standards.

Anonymous Grading of Examinations

A code system is used at the School of Medicine to assure anonymous grading of examinations. Each student is assigned a unique, randomly generated code number for each set of examinations. To assure anonymity for the students during the grading process the list that associates a student's name with a code number is held by Assessment and Learning until the all the exams have been graded and the grades have been posted to the students. All scoring and grade decisions are made before faculty know student names. Once the code is broken it is not used again.

Students are responsible for obtaining their own code number before an exam begins. No code numbers are given over the telephone, to another student or to a faculty member.

UNLV School of Medicine Curriculum Map: 2017 Charter Class

2017-2018	Phase 1																
	Immersions EMT Population Health 6 weeks		Introduction to Medical Science 6 weeks		Hematology and Cancer 4 weeks	Interession 1	Musc-Skeletal and Skin 5 weeks		Winter Break	Gastroenterology Endocrinology Reproductive 8 weeks		Interession 2	Cardiology, Pulmonary and Renal 12 weeks		Summer Vacation 4 weeks	Bench Research 8 weeks or Nevada Community Medicine	
	Doctoring 1						Doctoring 2										
Learning Communities 1						Learning Communities 2											
Nevada Community Service: Bridging the Gaps 1						Nevada Community Service: Bridging the Gaps 2											
2018-2019											Phase 2						
	Mind, Brain, and Behavior 9 weeks		Interession 3	Infectious Disease 4 weeks	Multi- System Disease 3 weeks	Winter Break	Foundations Review 6 weeks		Bench Research 6 weeks or Nevada Community Medicine	Transition to Clerkships (Skill-based activities) 4 weeks	Block 1: Longitudinal Integrated Clerkship 11 weeks		Interession 4				
	Doctoring 3						Doctoring 4										
Learning Communities 3						Learning Communities 4											
Nevada Community Service: Bridging the Gaps 3						Nevada Community Service: Bridging the Gaps 4											
2019-2020	Phase 3																
	Block 2: Longitudinal Integrated Clerkship 11 weeks		Interession 5	Block 3: Longitudinal Integrated Clerkship 11 weeks			Interession 6	Winter Break	Block 4: Longitudinal Integrated Clerkship 7 weeks		Clinical Science Review 4 weeks	Interession 7	Career Exploration Elective 4 weeks	Career Exploration Elective 4 weeks	Career Exploration Elective 4 weeks		
	Doctoring 5						Doctoring 6						Doctoring				
Learning Communities 5						Learning Communities 6						Learning Communities					
Nevada Community Service: Bridging the Gaps 5						NV Comm Srv: Bridging the Gaps 6						NV Comm Service: Bridging the Gaps					
2020-2021	Sub Internship 1 4 weeks	Sub Internship 2 4 weeks	ICU 4 weeks	Nevada Community Medicine 4 weeks	Elective 4 weeks No required clerkship	Elective 4 weeks No required clerkship	Winter Break	Elective 4 weeks No required clerkship	Elective 4 weeks	Elective 4 weeks	Capstone Graduation 4 weeks						
	Doctoring						Doctoring										
	Learning Communities						Learning Communities										
NV Comm Service: Bridging the Gaps						NV Comm Service: Bridging the Gaps											

UNLV School of Medicine Graduation Requirements

The awarding of the Doctor of Medicine degree is contingent upon satisfactory completion of all curricular requirements and academic and professional conduct requirements. The latter includes the demonstration of behavior patterns and attitudes consistent with the oath that all students take at the time of graduation. As such, student evaluation is based upon the observation of faculty and others in a teaching role of the student's behavior and conduct as well as performance on papers and examinations. A pattern of documented evaluator concerns about a student's performance may indicate unsatisfactory performance when the record is viewed as a whole, even though passing grades have been assigned in individual curricular elements such as the required courses and clerkships.

In addition, every student is required to participate in the intersessions, successfully complete a scholarly research project, pass all components of the Objective Structured Clinical Examinations, and pass the United States Medical Licensure Examinations: Step 1, Step 2-Clinical Knowledge, Step 2-Clinical Skills.

FOUNDATIONS PHASE	Total Credits: 176
Immersion: Emergency Response & Population Health	12 credits
Introduction to Medical Science	12 credits
Hematology & Cancer	8 credits
Musculoskeletal & Skin	10 credits
Gastroenterology, Endocrinology, & Reproduction	16 credits
Cardiology, Pulmonary, Renal	24 credits
Research 1 or NV Community Medicine 1	16 credits
Mind, Brain, and Behavior	16 credits
Infectious Disease	8 credits
Multi-systems Disease	6 credits
Primary Care Continuity Clerkship 1	4 credits
Primary Care Continuity Clerkship 2	4 credits
Primary Care Continuity Clerkship 3	4 credits
Doctoring 1	2 credits
Doctoring 2	2 credits
Doctoring 3	2 credits
Learning Communities 1 (incl. Spanish)	2 credits
Learning Communities 2	2 credits
Learning Communities 3	2 credits
Nevada Community Service	2 credits
Nevada Community Service	2 credits
Nevada Community Service	2 credits
Foundation Review/ USMLE Prep	2 credits
Research 2 or NV Community Medicine 2	16 credits

CLERKSHIPS PHASE	Total Credits: 108
Transition to Clerkships	8 credits
Longitudinal Integrated Clerkship (80 credits total)	
Anesthesia	4 credits
Family Medicine	12 credits
Medicine	12 credits
Neurology or Neurosurgery	4 credits
ObGyn	12 credits
Pediatrics	12 credits
Psychiatry	12 credits
Surgery	12 credits
Doctoring 4	2 credits
Doctoring 5	2 credits
Doctoring 6	2 credits
Learning Communities 4	2 credits
Learning Communities 5	2 credits
Learning Communities 6	2 credits
Nevada Community Service 4	2 credits
Nevada Community Service 5	2 credits
Nevada Community Service 6	2 credits
Clinical Science Review/USMLE Prep	2 credits

CAREER PREPARATION AND SCHOLARSHIP PHASE	Total Credits: 92
Clinical Electives: 5 four-week blocks	40 credits
Subinternship 1	8 credits
Subinternship 2	8 credits
Nevada Community Medicine 3	8 credits
Critical Care	8 credits
Capstone	8 credits
Doctoring 7	2 credits
Doctoring 8	2 credits
Learning Communities 7	2 credits
Learning Communities 8	2 credits
Nevada Community Service 7	2 credits
Nevada Community Service 8	2 credits

TOTAL MINIMUM CREDITS FOR UNLV MD DEGREE **376 credits**