Workforce and Policy Initiative

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- Life Sciences Talent Initiative
- STEM Efforts
- Pipeline Programs
- Nursing and Clinical Education & Research
- Policy
- Human Capital
- Policy Development & Analysis
- Minority Health & Health Care Disparities
- Evaluating the State’s Investment in the Life Sciences
Recommendation #1

- Increase the number of practitioners and research scientists qualified in select areas critical to life sciences in MA
  - Nursing, clinical laboratory scientists, public health, clinical research management, computer science, regulatory engineering and quality control
  - Diversity must be a priority in developing this expanded workforce
Recommendation #1

• Build UMass Capacity by
  – Doubling the number of grads in each of these areas over next 5 years
  – Establishing program-specific post-doc traineeships
    • At least 2 per campus in nursing, clinical laboratory science, public health science and computer science
  – Recruiting world-class researchers and practitioners to enable programs to reach objectives
Recommendation #1 Funding

- Funding should be a balance of state resources, matching funds from industry and health care institutions and foundations
- Scholarships and grad assistant stipends sufficient to attract and retain top students at all levels
  - Provide summer stipends for undergraduate research experiences
  - Provide full tuition, fees and stipends for graduate students approximating NIH or NSF funding levels as appropriate
- Post-doc fellowships approximating NIH or NSF funding as appropriate
- Funding of new faculty to account for retirement, start-up and department expansion and refinement
- Provide sufficient administrative and support to ensure program sustainability and success
Recommendation #2

- Enhance infrastructure to provide quality education in targeted areas for an expanded student body on all campuses
  - Including updated, state-of-the-art laboratory space and equipment, office space and appropriate IT resources for each of the programs
  - Renovations whenever possible, but new construction will be required on the Boston and Lowell campuses
Recommendation #3

• Every student should have the opportunity for a reality-based, hands-on education in each of the targeted fields
  – Paid co-ops and internships in the students’ designated disciplines funded through industry partners
  – Research opportunities for undergraduates and grad students
  – Establish incentives to increase public/private partnerships between UMass and industry in state and beyond
Recommendation #4

- Curriculum in each of the targeted disciplines must be aligned with realities of the life sciences cluster by addressing workforce needs with practice and experience embedded throughout.
  - Service learning should be utilized whenever possible and should be specifically considered when co-ops, internships and research opportunities are unavailable.
  - Essential that there are multiple opportunities to engage in research throughout curriculum.
Recommendation #5

- Extend reach of UMass to strengthen K-12 STEM initiatives
  - Provide incentives to promote the establishment of community-academic partnerships that:
    - promote diversity
    - offer academic enrichment programming to ensure academic success
    - sponsor work-based experiences with a career development component to middle and high school students in preparation for post-secondary education in STEM and life sciences disciplines
  - Support endeavors and incentives that encourage mentoring and community engagement through programs that bridge connections between college students and youth
  - Fund best practice models to be replicated across campuses supported through state-municipal and industry
Recommendation #6

- Leader at University level that is responsible for coordination, articulation, evaluation, creation, management for analysis and dissemination of information in databases that facilitate collaboration on the targeted life sciences fields

- Establish or access where possible databases for the purpose of tracking life sciences programs as well as STEM programs that address diversity and the students who have participated in them
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Recommendation #7

- Build an evaluation component for the overall life sciences that will guide investment decisions and provide feedback to the legislature and Governor on the utility and strategy of future investments
  - Resources should be included in the core Life Sciences Initiative funding
Recommendation #8

- Reduce barriers and create incentives to facilitate seamless articulation between UMass campuses and state and community colleges in order to make efficient use of resources devoted to these initiatives