REPORT OF
THE PROVOST'S TASK FORCE ON INTERDISCIPLINARY ACTIVITIES
(3/9/15 FINAL)

TABLE OF CONTENTS

CHARGE OF THE PROVOST'S TASK FORCE ON INTERDISCIPLINARY ACTIVITIES

For many years, interdisciplinary activities have been central to the execution of UMBC's educational and research missions. The campus boasts a wide array of longstanding interdisciplinary units and activities, as well as emerging areas of curricular innovation and scholarly endeavor by our faculty and students. The Task Force will:

- Gather information about existing interdisciplinary activities at UMBC, including formal academic programs, individualized curricula, interdisciplinary, cross-, and multi-disciplinary research as conducted by research centers, institutes, and individual collaborations.
- Identify and assess opportunities and barriers posed by existing policies, practices, and campus culture, including but not limited to: areas of undergraduate and graduate student recruitment, advising, retention and completion, faculty development, workload, support for research, scholarly and creative activity, recognition of scholarly achievement, academic program administration, and shared governance.
- Evaluate approaches to support interdisciplinarity at other institutions. Identify and review exemplary models at other campuses.
- Recommend changes to existing processes, policies, and organizational structures to maximize our institutional strengths and to effectively and efficiently support and encourage the full array of interdisciplinary activities at UMBC.
- Act as a resource for the 2014-16 strategic planning process.

INTRODUCTION AND OVERVIEW

The increasing technical complexity and global interconnections of human societies have brought us to the point that virtually all of the major challenges we face -- climate change, transnational terrorism, deepening economic inequality, the fact that a majority of people on the planet live vulnerable lives "outside the law," -- are problems of such complexity that they require interdisciplinary solutions. Public universities are ideally positioned to be at the forefront of interdisciplinary research, analysis, and learning. UMBC, which is already a leader in this realm, should purposefully develop -- and showcase -- our interdisciplinary capabilities to the fullest extent possible. Therefore, at the direction of Provost Rous over the past 18 months, the Interdisciplinary Activities Task Force has gathered a great deal of information regarding interdisciplinary activities at UMBC. To address the Provost's Charge, we organized our investigations around three themes. They are: **Faculty Recognition and Reward**, **Curriculum and Pedagogy**, and **Research, Scholarship, and Creative Activities**. Through a series of in-depth conversations with campus leaders and faculty across campus and preliminary research into national best-practices, we have gained substantial insight into barriers to the smooth functioning of interdisciplinary work, potential solutions to those challenges, and opportunities for greater faculty engagement in interdisciplinary activity.

The following pages enumerate the specific, detailed recommendations that grow out of the Task Force discussions. Each recommendation expresses the consensus of the members. Here we make three observations that frame our overall findings.

1. UMBC has a rich history of interdisciplinary activity and a wealth of ongoing collaborative teaching and research. However, we do not effectively tell the story of our history or our current practice.

   That is, the campus has a long history of innovative interdisciplinary curricula and research. Many of the existing departments themselves configure interdisciplinary fields. Some departments such a as American Studies, Africana Studies, Gender and Women's Studies, and Global Studies are representative of national and international interdisciplinary fields developed in the last fifty years. Some are unique administrative units that bring together multiple disciplinary/intellectual traditions. For instance, Ancient Studies combines Ancient History, Greek and Latin languages, and Old World Archeology; Modern Languages, Linguistics and Intercultural Communication combines language training, non-English Literatures, formal and Social Linguistics, and Anthropology; and Media and Communication Studies brings together cultural analysis of media texts, with social scientific analysis of audience reception. Moreover, there is a wealth of interdisciplinary activities ongoing at UMBC that demonstrate that the legacy of interdisciplinarity on campus continues to generate innovative learning opportunities and new knowledge. The multiple course collaborations focused on Baltimore communities that link American Studies with Art and Design courses is a current and

marvelous example. Additionally, UMBC's research centers, such as CUERE and current UMBC-UMB seed grant programs, are examples of collaborative interdisciplinary research projects.

Yet, this wealth and diversity of interdisciplinary activities is not visible in the UMBC narrative. Instead, in many instances the word *interdisciplinary* is understood only to refer to the Interdisciplinary Studies Program, the individualized undergraduate major option. One of the central objectives of the recommendations herein is to increase the visibility of our interdisciplinary activities by developing more robust means to capture information about those activities and to communicate them more effectively, both internally and externally. UMBC is not a newcomer to the interdisciplinary trend in academia; we are an innovator. We should do more to build our national and international reputation in this regard. Thus, the main thrust of the recommendations that follow is to tell the stories of interdisciplinarity at UMBC more effectively, to more effectively support our ongoing activities, and to better nurture the birth of new activities.

2. A second observation is that the term *interdisciplinary* used by faculty and academic staff to identify the activities within their own units actually covers a great variety of activities.

For instance, within some departments with strong disciplinary histories—such as History, Physics, Psychology, and Biology, where subfields abound and have become very specialized—faculty use the term *interdisciplinary* to describe research that relies on the language, theory, and methods of multiple subfields within that discipline. In other instances, faculty use the term to describe research that crosses the boundaries of academic disciplines/departments. Thus Arts faculty collaborate on projects that bring together the visual and performative arts; the Department of Sociology and Anthropology describes itself as interdisciplinary because it brings together the intellectual traditions of its two namesake fields, as well as the subfields of health policy and aging; and Visual Arts is home to distinct genres of art making and Art History that intersect in the interdisciplinary foundations program. Still in other instances noted above, departments such as American Studies, Africana Studies, Gender and Women's Studies, and Global Studies house fields of study that are themselves interdisciplines, which combine humanities and social science theories and methodologies. Their curricula provide students with specific opportunities to develop the skills of crossing and combining disciplinary tools and perspectives in their own research projects.

The Task Force has found that the ease with which this intellectual border-crossing is accomplished also varies considerably. When the work takes place within a single administrative/budgetary unit, such as a department or college, then it is often relatively easy for individuals and groups of scholars to work together and sometimes to receive recognition for that work. However, where the activities involve crossing administrative/budgetary boundaries between colleges or USM campuses, the challenges are far greater. In most cases, these difficulties result from administrative systems that are designed to

manage projects run by a single investigator within a single academic unit. Not only does this produce challenges to those doing this work, but it also hides these collaborative activities from view, allowing them to go unrecognized and unrewarded. This further dampens the motivation to develop interdisciplinary teaching and research. Another central objective of the recommendations herein, therefore, is to identify administrative roadblocks that stymie cross-unit research and teaching. In particular, the Task Force encourages the development of more robust and flexible administrative systems to more effectively support the kind of multiple investigator, multiple unit, scholarly activity that is becoming the norm within most externally funded research.

3. A third observation is that the term *interdisciplinary* is often understood to require collaborative research. In other instances, it is understood as involving a single investigator.

   This divide often overlaps with that between externally funded research and self-supported research. In STEM and highly quantitative fields, interdisciplinary research is in fact often synonymous with collaborative research, as teams of disciplinary experts are assembled to address complex problems. Climate change research is perhaps the most visible current example internationally. And the NSF now emphasizes multiple-investigator grants over single-investigator grants. However, within humanities fields, where grant supported research is scarce and still geared to individual investigators, the term often refers to the single researcher who combines multiple areas of methodological expertise to investigate a topic from various perspectives. For instance, it is very common for faculty in the humanities to combine ethnographic and archival research with literary tools of analysis to document how life experiences are shaped socially and discursively.

The Task Force recommendations seek to strengthen campus support for each of these kinds of interdisciplinary work through developing more robust and flexible administrative support for all types of research. But more importantly, it also seeks to strengthen the incentives, reward, and recognition of the many forms of interdisciplinary work in which our faculty are engaged.

The following pages contain the Task Force recommendations, organized by the Sub-Committee themes and one full Task Force recommendation. Each addresses a variety of concerns in the areas of *policy, communication, and engagement.*

Policy

Many current policies are based on a conflation of academic discipline and administrative department. For example, our P&T policy, which is based in departmental reviews, speaks directly to scholarly work "in the discipline." You will find this issue addressed in the recommendations that follow from the **Faculty Recognition and Reward Sub-Committee**. Similarly, the **Curriculum and Pedagogy Sub-Committee** has observed that interdisciplinary teaching and curriculum development is very much valued in principle, but not in policy. This Sub-Committee addresses the lack of clear policy for how FTEs, degrees, and other credentials

are represented on the diploma and how credit is assigned to units for interdisciplinary and collaborative teaching.

Communication
Overall, the university community needs to strengthen across-campus and across-unit communication to support interdisciplinary activities as well as to share the results of successful activities. All three Sub-Committees uncovered a strong desire for a comprehensive searchable database of faculty profiles, listing expertise and areas of both teaching and research focus, that would be available to the entire UMBC community. Such a database could go a long way toward helping faculty members, both new and established, to make connections with others who have related research or teaching interests. Thus, this database could be a tool for incubating interdisciplinary teaching and research activities. You will find this issue addressed in each set of Sub-Committee recommendations. In addition, the **Curriculum and Pedagogy Sub-Committee** makes recommendations designed to raise the visibility of interdisciplinary teaching and curriculum in campus marketing, both within the university as current students are advised and outside the university to potential students.

Engagement
Because administrative practices do not explicitly recognize and reward interdisciplinarity, we also need to allocate resources for the incubation of these activities and to train faculty to work within interdisciplinary structures. You will find the issue of faculty training for interdisciplinary activities and the potential of the Centers for incubating these activities in the recommendations of the **Research, Scholarship, and Creative Activities Sub-Committee** report.

RECOMMENDATIONS

I. SUB-COMMITTEE ON FACULTY RECOGNITION AND REWARD

With regard to faculty recognition and reward, UMBC policy has lagged behind the development and support for the interdisciplinary teaching, research, and service activities of our faculty. For instance, our promotion and tenure documents specifically reference "research in the discipline." This may have a limiting effect on how units evaluate interdisciplinary activities as well as a chilling effect on interdisciplinary and collaborative research by junior faculty. It also sends a mixed message. Department Chairs report sending the message to junior faculty that interdisciplinary work is valued. However, junior faculty report receiving the message that it is safer to contain their teaching and research within the discipline in order to achieve tenure. Then, upon receiving tenure, faculty are expected to switch gears and engage in interdisciplinary work, but without a visible support structure for making this switch. This creates confusion among the faculty about the expectations upon which they will be evaluated.

There are steps we can take to clarify expectations. We have discovered that the USM Board of Regents policy for the standards for promotion and tenure is more expansive than current campus

policy. It explicitly recognizes interdisciplinary and collaboration research, teaching, and service. We have also identified a number of units who in practice do recognize and encourage interdisciplinary and collaborative activity: i.e., Gender and Women's Studies, Africana Studies, American Studies, Sociology and Anthropology, Geography and Environmental Systems, Political Science, Dance, Visual Arts, and History.

Recommendation #1
We recommend that the Faculty Affairs Committee of the Faculty Senate review, revise, and update the standards for promotion and tenure to align with USM Board of Regents policy. In support of this, as these changes are being made, we recommend that the Provost's Office support a workshop or symposium led by departments that explicitly include interdisciplinary research, teaching, and service in their promotion and tenure considerations so they may share their policies and practices with those who currently do not. A goal of this workshop or symposium would be to develop a set of campus best practices for evaluating and rewarding interdisciplinary teaching, research, and service.

Recommendation #2
One of the limitations we have found in recognizing faculty interdisciplinary activities is that the University lacks a robust means for capturing information about faculty research and teaching. We recommend that the University invest in developing a reporting process to capture precise and thorough information about faculty activity. Whatever process is used, interdisciplinarity must be explicitly included. If Digital Measures is to be that reporting process, we will need ongoing conversations and pilots to develop these capabilities. Specifically, this information should be made in a searchable format, perhaps with metadata tags, to allow community members to search for and identify potential collaborators. Furthermore, consultation with campus data management experts suggests PeopleSoft's HR and finance databases are capable of handling more detailed information about faculty appointments. Therefore, we recommend enhancing the quality and quantity of information captured about faculty in these databases to include such things as affiliate appointments and multiple PI research projects.

Recommendation #3
Unlike many other research universities, UMBC has a limited number of awards for faculty. There is one research and one teaching award per year. We have been very successful with Regents awards. However, the campus should develop more avenues for recognizing faculty excellence, and in so doing explicitly award interdisciplinary, collaborative, and innovative research, teaching, and service projects. In developing these additional awards, it would be useful to look for ways to augment the current departmentally-based nomination process. Where Colleges and the Office of the Vice President for Research have their own grants/fellowships/ awards, they should be encouraged to include interdisciplinarity among the selection criteria.

Recommendation #4
In our meeting with the Humanities Chairs, it was noted that there is little support for mid-career faculty to develop new lines of research. It was suggested that UMBC provide internally grant-

supported leaves to enable mid-career faculty to acquire training in a new area of expertise, either at UMBC or elsewhere. We wholeheartedly endorse this recommendation as an effective way to increase the interdisciplinary capacity of our faculty, particularly at the level of Associate and Full Professor. Perhaps one way of mitigating the impact of this on our limited teaching resources would be to offer visiting fellowships for faculty from other universities to come to UMBC during their sabbatical leaves to receive training in our areas of expertise. This could be a way to build on the success of the Eminent Scholar Mentor Program, which has served junior faculty well and enhanced UMBC's reputation. Recommendation #10 from Research, Scholarship, and Creative Activities makes a similar suggestion.

Recommendation #5
Another area of growth in interdisciplinary activity involves faculty taking their expertise into the community to benefit public projects. This often requires faculty to engage in practices beyond their current expertise. Recently, funders such as the Spencer Foundation have begun to offer grants to meet this need for additional training. We recommend that the University develop a process that would allow faculty to identify, apply for, and win grants of this type. This would also allow us to address a trend of faculty leaving academia for industry, where they currently have greater opportunity to work in teams and make a difference in the larger community.

II. SUB-COMMITTEE ON CURRICULUM AND PEDAGOGY

As noted above, the wealth of interdisciplinary academic programs at UMBC is largely invisible in campus admissions, advising, and orientation programs, as well as in the general narrative the campus uses when communicating with external constituents. As a result, we have not capitalized on this strength in building the campus reputation or in recruiting students. Therefore, the Task Force offers recommendations in the areas of *marketing*, *advising*, and *curriculum development*.

MARKETING
Our current list of academic programs, both in the catalog and through the official list in the Provost's Office, does not effectively highlight our interdisciplinary strengths or the potential for effectively combining academic credentials. Specifically, minors and certificates are not consistently highlighted. This has a negative impact on recruitment of students who may not realize the range of innovative/interdisciplinary opportunities offered at UMBC. This is a particular problem for recruitment to the College of Arts, Humanities, and Social Sciences (CAHSS), where the majority of freestanding interdisciplinary academic programs reside. Because our internal information system does not highlight what is possible, it presents a problem for academic advising, both the centralized advising of entering students through the Advising Center and the decentralized, departmentally-based faculty advising of matriculated students.

Recommendation #6

We recommend that the campus marketing materials be redesigned to highlight the strength and range of interdisciplinary academic opportunities at the graduate and undergraduate level at UMBC.[1] This would include both completely revising the presentation of academic programs (majors, minors, and certificates) managed by both the Provost's Office and Admissions. Interdisciplinary academic units should also be more regularly highlighting on admissions Web pages and in Spotlights. This would require the input of expertise from the Advising Center, Admissions, CAHSS, and other units.

Recommendation #7
The undergraduate admissions page Spotlights have been effectively utilized to raise awareness about interdisciplinary programs. Global Studies, Media and Communication Studies, the Public Health track, the Game Development track, and the Management of Aging program, each of which have been highlighted on our admissions Web page, have had strong enrollments in their early years. Therefore, we recommend that we build on these successes and highlight all interdisciplinary programs, as well as any academic program with growth capacity.

Recommendation #8
Currently, there is no category of interdisciplinary programs on our undergraduate admissions Web page. We recommend the creation and posting of this list. Additionally, the graduate admissions Web page, which is currently an alphabetic list of programs, needs a consistent way to identity interdisciplinary and multi-departmental offerings.

Recommendation #9
We recommend developing a process to designate interdisciplinary courses as *interdisciplinary* so students with interest may locate them in the catalog. This process should be the responsibility of an expert committee analogous to the Writing Board.

ADVISING
Recommendation #10
While revision of Admissions' marketing materials are being developed, we also recommend a concerted training effort for both staff of the Advising Center (who see students at orientation) and faculty advisors in departments to ensure all advisors recognize the range of opportunities, such as B.A.s in our interdisciplinary units as well as the potential (especially in CAHSS) to obtain multiple credentials (majors, minors, certificates) within the 120-credit graduation requirement. A part of this goal will be to help advisors more effectively route students to the appropriate departments when they have interdisciplinary or multiple interests. At the moment, advisors, and thus incoming students, are only introduced to the Interdisciplinary Studies Program (INDS), rather than the full complement of interdisciplinary programs. In academic advising, as within all other processes at UMBC, we have a tendency to conflate *department* and *discipline*. This recommendation allows us to break up this assumption. This has the potential to

[1] Dean Casper's recent work to highlight CAHSS offerings may offer a model for how we may more effectively communicate our interdisciplinary program offerings.

improve retention and graduation rates by linking students to the best-fitting curriculum earlier in their career. This is particularly important for the interdisciplinary fields not generally available at the high school level.

Recommendation #11
We recommend making it routine to train advisors to review the degree audit for each of the plans in which a student is enrolled, not just their own or the student's primary plan. We also recommend training advisors to use the *What if?* scenario button in advance of advising students to show them how many courses the student would need to complete multiple or interdisciplinary credentials (majors, minors, and certificates).

Recommendation #12
We recommend training for faculty and staff at Career Services and the Shriver Center so they are able to highlight interdisciplinary academic programs and credentials for students with multiple or interdisciplinary interests.

CURRICULUM DEVELOPMENT

Recommendation #13
We need to develop a means of capturing information across campus about faculty who are engaged in or interested in collaborative or interdisciplinary teaching. As we capture this information, we also need a process to circulate it in a way that feeds back into advising, admissions, and other publicity activities. Digital Measures has the potential to report on teaching if faculty are asked to identify their collaborative/interdisciplinary teaching or interest in these opportunities. Additionally, graduate student annual progress reports are currently departmentally based and not completed through Digital Measures. Therefore, we further recommend a mechanism be developed to capture centrally this information about graduate students' interdisciplinary and collaborative teaching interests.

Recommendation #14
Currently, the All Program Review (APR) self-study does not ask departments to highlight their interdisciplinary curricular activities. Therefore, it does not track cross-listed courses or team taught courses, etc. However, it does ask external reviewers to comment on the extent of engagement with other departments. We recommend that the University's APR self-study directions explicitly ask about the department's interdisciplinary curricular activities, including cross-listed courses, team taught courses, and more, and the barriers they confront in these activities.

Recommendation #15
The Honors College, Humanities Scholars, First Year Seminars, Linehan Artist Scholars, Sondheim Public Affairs Scholars Program, and more provide excellent opportunities for

students to engage in interdisciplinary inquiry. But the constraints on the resources of the interdisciplinary departments and programs limit their participation in these courses. The incentive question is challenging because our faculty resources are so scarce that course releases and little bits of money to replace teaching on a course-by-course basis do not efficiently or effectively address these scarce resources. In addition, in the last 10 years in CAHSS in particular, we have initiated several interdisciplinary majors, minors, and certificates with very limited resources. We need to invest in these programs so they may better meet their own departmental curricular needs and also contribute to the Honors University experience for all students. At the Provost's level, in order to more effectively meet the growing curricular needs of interdisciplinary academic units, something like the cluster hires that are being planned to augment our research capacity should be developed to enhance our interdisciplinary curricular capacity. Additionally, we recommend university-wide initiatives also be included in the faculty line request and justification process. Finally, we recommend the development of a funding source to support a robust system of full-time visiting faculty to bring first-rate scholars to UMBC on a temporary basis to support participation in UMBC undergraduate honors experiences. This strategy may also reduce the strain on faculty resources from sabbatical research and fellowship leaves.

Recommendation #16
Although the New Program Concept Committee reviews and approves the development of new program proposals, it may not currently take as its charge the identification of new programmatic opportunities. Therefore, we recommend the development of a reporting mechanism that would provide the committee with an analysis of emerging areas of interest within the various Colleges and the INDS program. We recommend that the Colleges and INDS report annually on strengths, emerging areas of interest, and potential opportunities for new programs. These reports can inform both program development and faculty hiring plans.

Recommendation #17
Currently our metrics for faculty, workload, credit-hour productivity, and faculty-student ratios are each grounded in departments. Therefore, for collaborative teaching and teaching outside a faculty member's home unit, while the numbers might roll up into a departmental total, the collaborative or outside teaching of a faculty member is itself invisible. As an example in faculty/student ratios, faculty in Gender and Women's Studies have an obligation to teach in Global Studies, but how they serve those students is not captured. Similarly, there are departments that contribute to Media and Communication Studies that are only recognized when they are in the major. Finally, team-teaching and linked courses generally require a greater investment of faculty time, not less. Therefore, we recommend the development of a reporting process that identifies collaborative and interdisciplinary teaching, both within and across departments, and recognizes these in workload reporting.

III. SUB-COMMITTEE ON RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

The overall impression of the Sub-Committee is that UMBC's interdisciplinary research is rapidly developing with few formal barriers within academic units such as departments and colleges. However, decentralized administrative systems for proposing and managing projects and information exchange do present barriers to interdisciplinary research. We can substantially improve support for all research, especially collaborative projects that involve investigators situated in multiple colleges and across USM campuses, through pro-active institutional support in three areas: 1) Communication and Relationship Building; 2) Centers and Resources; and 3) Development of Faculty and Staff Interdisciplinary Skills. Throughout its recommendations, the Sub-Committee defines "research" broadly to include all activities involving research, scholarship, and creative work.

COMMUNICATION AND RELATIONSHIP BUILDING

One crucial limitation faculty face in pursuing interdisciplinary research is the difficulty in identifying potential collaborators within UMBC. This is especially true for junior faculty. More effective communication about the research activities and expertise across campus as well as within USM would greatly facilitate interdisciplinary research.

Recommendation # 18

We recommend developing a UMBC database of faculty profiles through either (i) Digital Measures that are searchable by keyword, or (ii) a replication of the Harvard Profiles database at UMBC. Indeed, the Harvard Profiles gather more extensive information about investigators using automated searches of PubMed data from their publications (e.g. keywords, names of collaborators on joint publications). Another option could be to develop an online collaborative tool that will help faculty find collaborators with the expertise needed to pursue specific research projects. This could be implemented by extension (to graduate students and faculty) of the already existing platform called *InSource*, which is now available for UMBC undergraduate students (and which was created by UMBC students).

Recommendation #19

We recommend continued and growing support of University-sponsored research retreats and events, in various formats, to build more robust support for the early stages of interdisciplinary research collaborations and grant applications with the goal of generating sustainable collaborations. Additionally, major interdisciplinary projects at UMBC, as well as research retreats, could be archived in an easily-accessible way for faculty/staff across campus. This will bring greater awareness and improved communication, as recommended above. Furthermore, we recommend highlighting and promoting existing interdisciplinary projects to the campus community (for instance by creating a "Spotlight" section in the Faculty tab of the *myUMBC* Web page).

Recommendation #20

We recommend that the university community including faculty, staff, students, departments, centers, and administration focus on developing more external joint/partnership programs with

industry, non-profit organizations, and government (both state and federal agencies), since these organizations have long term experience in supporting interdisciplinary research. A database of joint research projects initiated with external partners should be developed and maintained as a means for assessing the success of these efforts. In conjunction with departments and centers, we recommend that upper-level administration be actively engaged in the support of interdisciplinary research, scholarship, and creative activities across campus, in particular around the creation of joint research. Following from recommendations #1 and #2, we recommend leveraging the more robust internal communication system to strengthen and build our external communication and relationships.

CENTERS AND RESOURCES

Competitive research proposals and projects on the national level increasingly require the collaboration of interdisciplinary teams of researchers and methods. Centers have a role in catalyzing interdisciplinary relationships and efforts, since they can be a nexus for developing and conducting interdisciplinary research. However, for various reasons (e.g. lack of information, lack of professional help, not an explicit part of their mission), our centers are underutilized in this role. In the following recommendations, we urge consideration of how research centers could be sites of implementation. Every recommendation that is about infrastructure includes the possibility to increase the role of centers.

Recommendation #21

We recommend creating and distributing campus-wide searchable inventories of UMBC equipment, technical resources, services (including but not limited to centralized equipment and instrument facilities), statistics consulting, imaging, and other resources in order to facilitate communication and sharing among faculty campus wide. Additionally, once the UMBC database is in place, we recommend inventorying equipment, technical resources, and services available in the region (e.g. UMB, UMCP, JHU, government, private sector, etc.) and making this widely available to the campus community.

Recommendation #22

More substantial support from the University is required to nourish the interdisciplinary campus research community. This support can be in the form of research infrastructure investment as well as financial incentives in terms of salaries, release time, and/or seed funding. We recommend the creation of seed grants that support graduate students who work across/within departments on interdisciplinary projects (currently, mechanisms do not exist to pay these students). These grants make faculty collaborations workable.[2]

Recommendation #23

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[2] Recently the DRIF awards have been modified to include a collaborative component as a requirement of funding for senior faculty. However, the amount of money being offered is not sufficient to support even one graduate student.

We recommend that the University provide the funds and personnel necessary to acquire major research equipment and services that facilitate interdisciplinary research and to maintain and run this shared equipment within a centralized user facility. The fact that this equipment will be located in centralized user facilities will offer opportunities to catalyze interdisciplinary research activities among scholars. We also need specialized staff with expertise to run the instruments, since it is impossible for individual faculty to have expertise to effectively use the diverse instruments needed in some interdisciplinary projects. This will allow us to be more competitive in attracting faculty, but also in acquiring funding (such as NSF Major Research Instrument grants), and to demonstrate to funding agencies that we have the appropriate environment. These services may also be marketable and valuable to others in a way that will increase their utilization and resources and create user-generated fees that would further purchase, maintain, and support equipment.

Recommendation #24
To orient UMBC's research culture to expand interdisciplinary research, we recommend streamlining and clarifying the Office of Sponsored Programs' (OSP) routing procedures for collaborative grant proposals involving multiple departments. We have learned that we do not currently utilize the PeopleSoft finance system's full capacity for recording information about multiple principal investigators. We note that adequate numbers of well-trained and experienced staff members are required in OSP to accomplish this goal. (See also Faculty Recognition and Reward Recommendation #2.)

DEVELOPMENT OF FACULTY AND STAFF INTERDISCIPLINARY SKILLS
Most faculty and staff were not trained to work in interdisciplinary academic environments. The following recommendations seek to redress this gap. As in other areas noted above, our university centers and the Office of the Vice President for Research can lead these efforts.

Recommendation #25
In addition to the research retreats mentioned in Recommendation #2 above, we recommend identifying formal training programs and best practices for the management of interdisciplinary research projects, including leadership, mentoring, and team-forming activities. Such training is critical to building our faculty's capacity for interdisciplinary work. Consistent with the Recommendation #4 offered by the Faculty Recognition and Reward Sub-Committee, we recommend providing opportunities (such as sabbaticals) for faculty members to learn the content, languages, and cultures of disciplines other than their own, both within and outside their home institution. Additionally, we recommend the creation and/or identification of workshops on existing external funding opportunities/mechanisms for interdisciplinary projects organized through the Office of the Vice President for Research.

Recommendation #26
We recommend growing targeted research areas through cluster hires as a way to create communities of excellence in interdisciplinary research. In many areas, there are not enough faculty and researchers to provide sufficient research depth and overlap.

Recommendation #27
We recommend a careful crafting of the workload policies and procedures in order to protect faculty collaborators and their graduate students from having to meet multiple sets of expectations as they work across units. This is especially important for the current seed grant program between UMBC and UMB.

IV. FULL TASK FORCE RECOMMENDATION

Recommendation #28
Through their eighteen-month investigation, Task Force members have developed in-depth knowledge of UMBC's current interdisciplinary activities and best practices nationwide. To capitalize on this expertise for the benefit of UMBC, we recommend the appointment of an Implementation Committee, including members of the Task Force, that would be charged by the Provost with implementing those recommendations that he decides should be taken up. Where necessary, this committee would also seek out models and visit institutions that can provide effective communications, training, and business process models. Additionally, the committee could oversee the development of a comprehensive inventory enabling them to map interdisciplinary activities across campus. Finally, we recommend that this committee develop metrics of success by which to evaluate those policies and practices that are implemented and provide ongoing advice to the Provost for the continuous support of interdisciplinary activities at UMBC.

APPENDIX I: TASK FORCE MEMBERS AND SUB-COMMITTEE COMPOSITION

1) Sub-Committee on Research, Scholarship, and Creative Activities

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In addition, Task Force members want to acknowledge the excellent administrative support provided by Rachel Carter, Ph.D. candidate in the Language, Literacy and Culture Program. Her dedication, hard work, organizational acumen, and consistently good cheer have enabled the Task Force collectively to carry out its investigations and produce a detailed and specific final report. Whatever value the campus finds in this report owes much to her good work.

APPENDIX II

OVERVIEW OF OUR PROCESS

Fall 2013

We identified the larger categories of concern that required action to better support and grow the interdisciplinary activities at UMBC. Following our earliest discussions, the Task Force developed three Sub-Committees. They are: **Faculty Recognition and Reward**, **Curriculum and Pedagogy**, and **Research, Scholarship, and Creative Activities**. This structure allowed Task Force members to investigate more deeply both the barriers and opportunities to the smooth function of our interdisciplinary work.

Spring 2014

We met with groups of Department Chairs across campus to gain their perspective on the opportunities and barriers for interdisciplinary work. These conversations provided the Task Force with a rich source of information and concrete examples for some of the issues identified by the Task Force, while also adding new categories of concern and opportunity for us to investigate.

Summer 2014

We followed-up these conversations with a survey requesting an inventory of activities. This was sent out in mid-June to all Department Chairs and several Center Directors. Perhaps because of timing, as well as technical issues and length of required input, our response rate was not sufficient to allow us to compile a comprehensive list of interdisciplinary activities across campus.

Over the summer, Sub-Committees continued to gather information and began to locate exemplars of interdisciplinary organization and management found at other institutions. These investigations have informed the development of our recommendations.

Fall 2014

The three Sub-Committees continued to gather information, articulate the results of their research tasks, and develop drafts of their recommendations.

In October, the Faculty Recognition and Reward Sub-Committee submitted their draft recommendations for review by the full Task Force. In November, the Curriculum and Pedagogy and the Research, Scholarship, and Creative Activities Sub-Committees submitted their draft recommendations for review by the full Task Force. Productive discussions followed each meeting, allowing Sub-Committees to further improve the articulation of their recommendations.

The Faculty Recognition and Reward Sub-Committee met with Dr. Pat McDermott, where we learned of important language within the USM Board of Regents policy to support interdisciplinary activities. You will find this language referenced within the recommendations that follow from the Faculty Recognition and Reward Sub-Committee.

Since each of the Sub-Committees have identified an issue of communication that may be resolved through Digital Measures, Dr. McCann also met with Dr. Michael Dillon and Mr. Arnold Foelster to share with them these draft recommendations and to gather details about the capacity of Digital Measures. Dr. Dillon and Mr. Foelster offered significant support for the use of Digital Measures to resolve these campus-wide communication issues.

In December, the full Task Force met to review and approve the revised recommendations for each Sub-Committee.

Spring 2015

During the month of January, we submitted our draft report to campus leaders for their review. We received very positive feedback and no substantive revisions to the recommendations.

In February, the Task Force met one last time to approve the final report in advance of submitting it to the Provost.