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Introduction/Executive Summary

The Office of Innovation Commercialization (OIC) at the University of North Carolina at Greensboro (UNCG), (initially formed in April 2002 as the Office of Technology Transfer), is presently completing its ninth year of operations, and is seeking a plan that can help to guide the operations of the office through 2016. This document details the third Strategic Plan entered into by the Office of Innovation Commercialization, covering the period July 1, 2011, through June 30, 2016. The second Strategic Plan, originally designed to cover years 2010 – 2014, is being superseded by this Plan due to the myriad of changes that have taken place within the OIC, the Office of Research and Economic Development (of which the OIC is a unit), and across the UNCG campus. A new Strategic Plan is required as these changes have resulted in a need for a realignment of resources and personnel, and a revision and realignment of the goals and objectives within the OIC.

A few of the major changes that have recently taken place at UNCG and which have had a major impact upon the activities the OIC finds itself engaged in include:

1. In summer of 2009, the reorganization of the Office of Research and Economic Development (ORED) created a new reporting relationship for the OIC to the Associate Vice Chancellor of Economic Development (AVCED), as well as a new Director. As of July 1st, 2011, the OIC will be directly reporting to the Vice Chancellor of Research and Economic Development.
2. Promotion and tenure metrics at UNCG were revised in April of 2010 to take into consideration:
   - Granted patents
   - Patent applications
   - Disclosures of innovation
   - Entrepreneurship and related activities
3. UNCG has seen increased levels of research activities, collaborations with industry and funding across various schools and departments, some of which is prompted by initiatives at the state level, the university system level, as well as the increased research capacity of UNCG faculty members.
4. The Kannapolis based David H. Murdock Research Institute (DHMRI) houses innovative faculty members from institutions across the state, including UNCG, and has already demonstrated innovative capacity from collaborations amongst these individuals in its early stages.
5. The Joint School of NanoSciences and NanoEngineering (JSNN), in partnership with NCA&T, opened its doors and started their first PhD program in fall of 2010. This school is expected to be a considerable source of innovation for both universities.
6. Through 2010-2011, UNCG has been active as a Pilot Campus in the General Administration’s “UNC Vision for Innovation Development and Transfer Initiative” (IDTI), examining university innovation and technology commercialization practices and identifying the economic impact of the university.

A timeline covering the first nine years of operations shows several of the major milestones and improvements of the office since its initiation. Our mission and vision statements have been revised, but continue to feed into and support those of the Office of Research and Economic Development (ORED) and UNCG’s Strategic Plan. Each is provided herein.

The primary purpose of the organization is to provide value added services to the faculty staff and students of the university who are involved in innovative activities. The overarching objectives and the responsibilities that fall under the organizations purview are provided to illustrate the varied nature of the activities the OIC finds itself engaged in.

The OIC operations strategy is summarized to provide information on how the office works to commercialize innovation at UNCG. History often defines the direction of the future – it is therefore important to understand where we have been in order to ensure we are on the best path moving forward. Metrics provide background information as well as some support for the forecasts we have projected for the next five years.
We have identified several key goals and objectives for the five-year period covered by the Plan. We believe these goals will help to support and stimulate the burgeoning innovative and entrepreneurial culture, as well as support the continued infrastructure development that will sustain the OIC as we support the growing research enterprise of UNCG. Many of these goals specifically support efforts of the ORED in fulfilling their mission and objectives set by the UNCG Strategic Plan as well as the recommendations from the UNC Tomorrow Report.

In the management section we have assessed the resources required to fulfill the goals and objectives over this five-year plan, and provide organizational information on the resources and their associated costs required to fulfill these obligations throughout the period.
Vision and Mission Statements

The mission and vision of any office should reflect and support the vision and mission of the larger institutional structure to which it belongs. We believe those of the OIC reflect our position to be able to support those of the Office of Research and Economic Development, to which OIC reports, and the university as a whole. OIC expects to be actively engaged in each of the four overarching goals of the ORED listed on the subsequent page.

UNCG

Vision
The University of North Carolina at Greensboro will redefine the public research university for the 21st century as an inclusive, collaborative, and responsive institution making a difference in the lives of students and the communities it serves.

Mission
The University of North Carolina at Greensboro is:

- A learner-centered, accessible, and inclusive community fostering intellectual inquiry to prepare students for meaningful lives and engaged citizenship;
- A research university where collaborative scholarship and creative activity enhance quality of life across the lifespan;
- A source of innovation and leadership meeting social, economic, and environmental challenges in the Piedmont Triad, North Carolina, and beyond; and
- A global university integrating intercultural and international experiences and perspectives into learning, discovery, and service.

ORED

Mission
The Office of Research and Economic Development (ORED) provides support and strategic direction to faculty, staff and students for research and creative endeavors resulting in scholarship, innovation, economic development, and community engagement. Fostering a culture of research integrity, the Office promotes a vigorous and robust learning environment, supports innovation, and facilitates reciprocal partnerships that transform the public research university for the 21st Century, making a difference in the lives of students and the communities it serves.
**Goals**

The overarching goals for ORED are:

- Increase the impact of UNCG’s research, creative activity, community engagement, and economic development.
- Continue to foster a positive and responsive climate by improving the infrastructure and refining the policies/procedures necessary to efficiently and effectively support the research and creative enterprise.
- Nurture existing and expand and establish new strategic partnerships internal and external to UNCG that support and enhance research and creative activity.
- Increase the prominence of and appreciation for the scholarship, impact, community benefit, and enhanced student outcomes emanating from UNCG’s research, creative activity, community engagement, and economic development.

**OIC**

**Vision**

The Office of Innovation Commercialization strives to be a valued resource recognized for facilitating innovation commercialization and industry collaborations through the University of North Carolina at Greensboro, enhancing the transformation of applied research for society’s benefit; improving the quality of life for members of the Piedmont Triad, the State of North Carolina and beyond.

**Mission**

The Office of Innovation Commercialization supports UNCG’s effort to encourage innovation and continued economic development in the Piedmont Triad Region by:

- **Serving the University and the public by helping faculty, students and staff protect and realize the full commercial potential of their innovations.**
- **Supporting the formation of small businesses aimed at getting academic innovations into products and services for the benefit of society.**
- **Facilitating and fostering collaborative, reciprocal relationships between faculty members, entrepreneurs, other research institutions, and regional as well as global industry partners.**
Primary Purpose of the Organization

Consistent with its mission of providing value added activities towards UNCG innovation commercialization and supporting reciprocal, collaborative relationships between campus researchers and industry partners, the OIC provides support in several ways to innovative and entrepreneurial faculty, staff and students. The overarching objectives of the office include:

- Facilitating the commercialization and growth of UNCG innovation for the public good;
- Generating revenue for the University, rewarding inventors and supporting promotion and tenure metrics;
- Identifying and protecting the intellectual property resulting from UNCG research, collaborations and other innovative activities;
- Promoting the generation of start-up companies from UNCG’s innovations;
- Supporting economic development goals and activities of UNCG and the AVCED.

In the process of providing this support, the following responsibilities fall under its purview:

- Developing and monitoring intellectual property policies, procedures and systems to safeguard the University and to provide for the effective administration of the innovation commercialization process;
- Building and maintaining awareness of technology transfer policies, procedures and achievements access UNCG’s campus;
- Assessing commercial potential of innovations of UNCG faculty, staff and students;
- Establishing the appropriate level of IP protection and administering associated processes;
- Negotiating and finalizing license agreements, material transfer agreements, confidentiality agreements, and other agreements to facilitate collaboration efforts;
- Counseling UNCG inventors and entrepreneurs in establishing start-up companies to commercialize their innovations;
- Supervising required government reporting as it pertains to inventions developed with external funding;
- Overseeing management of licensee compliance to contracts;
- Communicating and collaborating with other units across ORED and outside to properly facilitate the commercialization process, bringing more profitable outcomes;
- Developing social capital through networking opportunities and developing contacts that UNCG’s faculty, staff, and students can benefit from in their innovation and collaboration efforts.

“In September 2009, President Obama released his national innovation strategy, which is designed to promote sustainable growth and the creation of quality jobs. Two key parts of this strategy are to increase support for both the fundamental research at our nation’s universities and the effective commercialization of promising technologies.”

(Federal Register Volume 75, Number 57)
OIC Strategic Plan Drivers

Several changes have happened within the OIC, the ORED, across the UNCG campus, the Piedmont Triad Region and the state of North Carolina. In order to maximize the impact of the innovations at UNCG, the OIC recognizes the need to formulate a Strategic Plan that focuses on both internal and external partners who can facilitate these efforts. Specific changes driving the need for this Plan are identified and reviewed herein:

- **Realignment of the Division of Research at UNCG, new reporting structure of OIC:**
  - With a realignment begun in July of 2009, several individuals in the Division of Research were put into interim and acting positions (including the Vice Chancellor for Research and Economic Development, the Associate Vice Chancellor for Economic Development, and the Director of the OIC). UNCG formally instituted a new Chief Research Officer over the Office of Research and Economic Development – Dr. Terri Shelton, in July 2010. This solidified new leadership over the unit, and positioned OIC as a support to Economic Development Activities of UNCG.
  - A new Director over the OIC brings in new leadership and creative ideas for the strategic direction of the OIC in how it can provide infrastructure and support to the changing culture across UNCG.
  - As of July 1st, 2011, the OIC reports directly to the Vice Chancellor for Research and Economic Development, which brings the relationship into alignment with the other service units under the ORED.

- **Increased demand upon OIC resources:**
  The Final Report of UNC’s Tomorrow’s Commission in 2007 found a strong desire across the state for UNC schools to have a larger impact upon their regional communities. UNCG has implemented several mechanisms towards fulfilling that obligation, many of which have an impact upon the demand for activities and services provided by the OIC:
  - **Promotion and Tenure Metrics:**
    Performance and tenure metrics have been put in place at UNCG that encourage economic engagement and innovation activity, including the utilization of documented outcomes such as granted patents, patent applications, innovation disclosures, as well as entrepreneurship and related activities. The incorporation of these outcomes as metrics toward P&T indicate a need for OIC to build positive relationships with faculty, staff, and external organizations that will instill and create a culture of trust and reciprocal benefit to all parties.
  - **Increased external collaborations:**
    Increasing innovation activity with key collaborative partners including the Gateway University Research Park (GURP), the Joint School of Nanoscience and Nanoengineering (JSNN) and the David H. Murdock Research Institute (DHMRI) will drive an increasing need for OIC services, building critical mass to support innovation commercialization. External collaborations with regional industries will also increase as faculty members expand their search for research funding sources.
  - **Marketing & Education Outreach**
    The OIC survey in 2010 demonstrated a need to expand awareness of the services provided, and to help increase the knowledge about commercial potential of innovations developed across campus. This drove the design of a marketing plan which OIC will implement within the first two years of this Strategic Plan. A brief description of those marketing efforts is incorporated herein as Attachment A. This marketing effort will have an impact upon OIC activities as faculty, staff and students begin to think about the applied use of their innovations.
• **Assessment Committee’s Recommendations from 2008 Report:**

In 2007, at the request of the OIC Director, a UNCG OIC Assessment Committee was formed at the direction of the Associate Provost for Research and Private/Public Sector Partnerships. The committee was comprised of UNCG faculty and staff, UNCG licensees, and an expert in the field of university technology transfer. The Committee issued a report on July 8, 2008.

  - Several recommendations in that report are appropriate for the OIC to consider for this Plan and had an impact upon the planning and development of goals and objectives. The recommendations from that report considered for this next five year period are provided in Appendix B.

• **Alignment of OIC strategy with goals from UNCG’s strategic plan for 2009-2014:**
  - *Health and Wellness across the Life Span*
    2.1 Enhancing health sciences and translational research with a focus on Natural Products Pharmaceuticals and/or Nanopharmacology by leveraging our presence in the North Carolina Research Campus and partnerships with NC A&T State University and Wake Forest University School of Medicine
  - *Economic, Cultural, and Community Engagement*
    4.1 Strengthen the economy of the Piedmont Triad and North Carolina by engaging UNCG’s educational infrastructure in the development of innovations to create high skilled jobs, green jobs, and new companies prepared to meet economic, environmental, and social challenges within the emerging knowledge-based economy.
    4.3 Promote an inclusive culture of engaged scholarship, civic responsibility, and community service.
    4.4 Support basic and applied research to enhance the Triad economy.

• **Alignment with the UNC Vision for Innovation Development and Transfer Initiative:**

  The University of North Carolina and its constituent institutions will engage in high-value research and commercialization partnerships, with both public and private sector partners, to work together to pioneer new ways to innovate and commercialize technologies – ways that accelerate global and local economic development and position UNC as the “go-to” place for collaborators who also seek to find solutions to the world’s toughest problems.

  We will accomplish this vision by excelling in strategic research areas within institutions and across UNC, by supporting innovative individuals, and by modeling inspired, efficient technology development processes.

  - Formulated by the General Administration of the University system, this initiative is designed to assist campuses across the state with the acceleration of discovery; IP assessment, protection, and promotion; and new venture formation.
  - UNCG has been active as a Pilot Campus in the first phase of this “UNC Vision of Innovation Development and Transfer Initiative” (IDTI), examining university innovation and technology commercialization practices and identifying the economic impact of the university. UNCG expects to continue its efforts in this regard, which contribute towards the drivers of this Strategic Plan.

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1 From *Innovate, Collaborate, Accelerate: The UNC Vision for Innovation Development and Transfer*, A report of the findings and recommendations of UNC leaders, private and public sector partners examining University innovation and technology commercialization practices and identifying the essential progress needed to expand the economic development impact of the University. September 2009
# OIC Timeline

**An Emergent History of Progression, Improvement, and Achievement**

<table>
<thead>
<tr>
<th>Infrastructure Improvements</th>
<th>Milestones &amp; Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-04</td>
<td>UNCG, NC A&amp;T State University and Action Greensboro enter into a grant to establish the Technology Outreach at Nussbaum (TON) to perform invention assessments for the citizenry of Greensboro.</td>
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<td>2004-05</td>
<td>First “Inventor’s Workshops” for faculty, staff and students are offered in an effort to stimulate a UNCG culture shift toward innovation.</td>
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<td>2005-06</td>
<td>Two licensing agreements contribute toward the creation of spinout companies: Partnership 4 Dynamic Learning, Inc., and Learning Together, LLC.</td>
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<td>2006-07</td>
<td>The operation facilitates the revision of the UNCG Patent &amp; Invention Policy. This revised policy is approved and implemented, increasing the revenue sharing with UNCG innovators to 50%.</td>
</tr>
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| 2002-04 | Four graduate students are hired to serve as Licensing Assistants, 2 @ UNCG, 2 @ TON. |
| 2004-05 | A full-time Licensing Associate is added to the operation, expanding the office to meet the growing needs of UNCG. |
| 2005-06 | The operation moves into new office space in the Moore Humanities & Research Administration Building in June 2006. |
| 2006-07 | A database project management system is installed to maximize the efficiency and effectiveness of the operation by consolidating digital records into a centralized location, allowing for better records management. |

| 2002-04 | Operation is established April 1, 2002 as “Office of Technology Transfer.” |
| 2004-05 | Training materials for the Licensing Assistants are drafted to provide consistency with future interns. |
| 2005-06 | A website is created to serve as a portal for the campus and beyond to learn about innovation at UNCG; also to provide innovators with information on the commercialization process and the office’s services. |
| 2006-07 | A full-time Licensing Associate is added to the operation, expanding the office to meet the growing needs of UNCG. |

| 2002-04 | Jerry McGuire is named as OTT’s Director. |
| 2004-05 | First innovation disclosures are submitted by faculty, staff and students. |
| 2005-06 | UNCG, NC A&T State University and Action Greensboro enter into a grant to establish the Technology Outreach at Nussbaum (TON) to perform invention assessments for the citizenry of Greensboro. |
| 2006-07 | The Office is awarded its first US Patent. The USPTO approves a patent covering the “WaterChip” invention. |

| 2002-04 | The operation facilitates the revision of the UNCG Patent & Invention Policy. This revised policy is approved and implemented, increasing the revenue sharing with UNCG innovators to 50%. |
| 2004-05 | First “Inventor’s Workshops” for faculty, staff and students are offered in an effort to stimulate a UNCG culture shift toward innovation. |
| 2005-06 | Two licensing agreements contribute toward the creation of spinout companies: Partnership 4 Dynamic Learning, Inc., and Learning Together, LLC. |
| 2006-07 | Innovative materials to mentor high risk youth results in the creation of a new spinout company, Prevention Strategies, LLC. |

| 2002-04 | Four graduate students are hired to serve as Licensing Assistants, 2 @ UNCG, 2 @ TON. |
| 2004-05 | A full-time Licensing Associate is added to the operation, expanding the office to meet the growing needs of UNCG. |
| 2005-06 | The operation moves into new office space in the Moore Humanities & Research Administration Building in June 2006. |
| 2006-07 | A database project management system is installed to maximize the efficiency and effectiveness of the operation by consolidating digital records into a centralized location, allowing for better records management. |

| 2002-04 | Operation is established April 1, 2002 as “Office of Technology Transfer.” |
| 2004-05 | Training materials for the Licensing Assistants are drafted to provide consistency with future interns. |
| 2005-06 | A website is created to serve as a portal for the campus and beyond to learn about innovation at UNCG; also to provide innovators with information on the commercialization process and the office’s services. |
| 2006-07 | A full-time Licensing Associate is added to the operation, expanding the office to meet the growing needs of UNCG. |
“Coming together is a beginning; keeping together is progress; working together is success.”

~Henry Ford

### Infrastructure Improvements

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<th>Years</th>
<th>Milestones &amp; Achievements</th>
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<td>2007-08</td>
<td>- UNCG collaborates with NCA&amp;T, Wake Forest and the NCBC to establish the Center for Innovation in Nanobiotechnology (COIN).</td>
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<td>2008-09</td>
<td>- UNCG/SERVE and the National Staff Development Council form a Publisher/Author agreement to commercialize “A Facilitator’s Guide to Professional Learning Teams.”</td>
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<td>2009-10</td>
<td>- The NC Nanotech Accelerator signs a License and Technical Assistance Agreement &amp; an Exclusive Option Agreement. These result in the creation of Thermiacure, Inc., the 8th local start-up company created under UNCG Innovations.</td>
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<td>2010-11</td>
<td>- OTT integrates database developed by UNCG GA to fulfill its intellectual property management, web-based marketing, financial and reporting needs.</td>
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<td>- Kay Canady is welcomed as the Business Officer for the office.</td>
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<td>- Phase I of UNC IDTI is completed. UNCG is poised to move into Phase II, which places a focus on supporting innovative individuals, increasing collaborative efforts, and industry partnerships.</td>
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<td>- Morten Jensen is hired to the position of Licensing Associate, bringing full-time staff back to three.</td>
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### Journal Finder™, an integrated search interface developed by UNCG staff, is sold to North Carolina-based company - WT Cox Subscriptions.

### UNCG becomes a pilot campus for the UNC system wide Innovation Development and Transfer Initiative (IDTI).

### OIC conducts a survey of research faculty and staff across UNCG to assess their knowledge of OIC services, the UNCG Patent and Invention policy, and to measure satisfaction from those who have utilized OIC.

### A Trademark License Agreement to utilize promotional and marketing rights related to Hey Mozart™ in six countries is licensed to the Organization of American States.

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### Promotion and tenure metrics at UNCG are amended to include patent and commercialization efforts of faculty.

### NuDelta Digital, formed around a novel approach to cue lighting for theatrical performances, marks UNCG’s 10th local startup company.
**OIC Operations Strategy**

The basic philosophy for the operations of the Office of Innovation Commercialization focuses on a *hybrid* model for commercialization of innovation created at UNCG. This model utilizes and combines the best features of the *service* and *income-generating models*, the two utilized by a large majority of academic innovation commercialization operations. The *service model* typically emphasizes complete service to university inventors, providing services to meet the needs and desires of the research faculty, and tends to prioritize patenting of innovations. The *income-generating model* focuses on deriving revenue from licensing innovations, and emphasizes commercializing those innovations with high growth and high revenue generation potential, ignoring all others.

The *hybrid model* utilized by OIC takes best practices from each of these two examples, to provide a best fit for UNCG, providing services in support of innovative faculty, staff and students across campus, while maximizing efforts and investment on those innovations that have a high probability of reaching the commercial sector. The office is focused on providing efficient and a full range of innovation commercialization services furnished in a completely professional manner. Revenues generated by this model are to be shared with UNCG inventors with the remaining amounts plowed back into the UNCG research enterprise. While revenue generation is an added plus to academic innovation commercialization efforts, UNCG’s OIC is not driven to maximize income to the institution, but rather to maximize innovation development and commercialization pathways through collaborative, reciprocal relationships with our regional partners that will help to strengthen the economy in the Piedmont Triad and across the state.

**Innovation Management and Commercialization**

A core function of the OIC is to evaluate, protect, and commercialize innovations developed by faculty, staff and students at UNCG. Innovation Disclosures are submitted to the office from a variety of departments and schools across the campus and are therefore very diverse in nature. OIC’s approach to the innovation commercialization process is team-work based, drawing on the diverse strengths of the office throughout the process from initial disclosure assessment to protection, marketing, and license negotiation and drafting.

Innovations are initially assessed on multiple merits, some of which include its value to the customer, market need and size, as well as the abilities to protect and develop the innovation. The OIC is defining and streamlining its assessment practices based on best practices in the industry, to cope more effectively with the rising number of innovation disclosures and a drive towards more transparency in its operations.

The OIC works with the inventors to develop the appropriate commercialization strategy for the innovation, including considering whether the innovation is best commercialized through formation of a spin-out company. The OIC aims to accommodate the inventor’s commercialization wishes, and decisions along the innovation commercialization process is determined by our assessment of which strategy will produce the most benefits for the general public consistent with governmental or institutional and other obligations.

**IP Protection Strategy**

UNCG’s current Patent and Invention Policy, established in fiscal year 2005/2006, increased the revenue sharing percentage with inventors to 50% for all levels of revenue received from licensing revenues of their innovations, from the first dollar to the last. Previous patent policy for the institution had declining shares, with 50% of the first $50,000, 35% of the next $50,000, 20% of the next $50,000, and 15% thereafter. The policy implemented in September of 2005 was designed to incentivize innovative faculty, staff and students of UNCG by sharing equally all net revenues received by the university. Most innovations benefit greatly from intellectual property protection, e.g. in the form of patent, copyright or trademark protection. The nature of the innovation determines what IP protection mechanism is suitable, patent protection being the most costly and time consuming option. With the anticipated growth of innovation disclosures from UNCG faculty, staff and students it is imperative that the OIC has a forward
looking patent strategy in place. The patent strategy should seek to balance encouragement of the innovative spirit at UNCG and recognizing the new tenure metrics while controlling patent costs and activities within the OIC.

The University’s investment in a patent as a chosen form of intellectual property protection to guide an innovation towards commercialization will require the following three criteria to be met at the outset:

1. Identifiable value to the customer and commercial market.
2. Created utilizing university resources (funds, equipment, lab space, etc.).
3. Development path to move innovation forward toward commercialization.

It is anticipated that future patent filings and patent ‘families’ created around innovations\(^2\) will face increased scrutiny as the patent portfolio becomes more mature in the later part of this strategic plan. The patent strategy goals over that time will focus on the following:

- Recognize the need to support new tenure measures and encourage innovation.
- Build patent families with high potential of guiding a product or service to a commercial market, and will provide future measurable revenues and strengthen our collaborative partnerships.
- Build patent families that provide extrinsic value to UNCG research, as well as to our collaborative partners, with goals that build monetary and extrinsic value to encourage internal and external innovation without stifling it.
- Control patent costs.
- Active portfolio management recognizing the life cycle of some UNCG patents may be limited.
- Review past and current patent strategy and determine potential monetary and good will value.

**Nanotechnology IP at UNCG**

It is anticipated that the efforts of the JSNN will have a major impact upon all of the activities of the OIC, with increasing levels of innovation disclosures what will require IP protection. The Dean of the JSNN has expressed the expectation that JSNN faculty will submit two innovation disclosures each per year, and disclosures from students will be in the order of 3-5 per year. There are strong expectations that due to the still nascent aspect of this multidisciplinary ‘industry,’ intellectual property protection will be extremely important to leverage commercialization activities. The ongoing patent strategy of OIC will strive to encourage and improve patent velocity from the JSNN and other UNCG innovators, and will furthermore be focused on building a patent portfolio fence around JSNN technologies that will help to encourage joint ventures and collaborative partnerships, licensing, and start-ups to companies.

Research on patents issued over the past decade indicate that while the overall number of yearly patents issued have remained steady, those issued related to nanotechnology have increased exponentially since 2002.\(^3\) This is indicative of a national trend towards nanotechnology development and IP protection, of which UNCG intends to become a key player through the JSNN and other nanotechnology related research efforts of its faculty.

\(^2\) For example the USPTO will often require that a patent application be divided into two or more applications – one to pursue claims directed at a method, and another to pursue claims on a device.

\(^3\) All Nanotechnology Patents issued for previous two decades found here: [http://www.patrexa.com/ip-research](http://www.patrexa.com/ip-research)
Metrics

Metrics utilized for performance indicators herein are designed to reflect the mission of the OIC; the culture and values of UNCG; and are aligned with current best practices in the academic technology transfer profession. The use of these measures take into account the age and the resources allocated to the OIC, the changing cultural context towards innovation commercialization and entrepreneurial activities, new endeavors and partnerships across the region and state, and the priorities of the research community and of the University administration.

The tables and figures in this section measure the activities the office was engaged in from fiscal years 2002 through 2011 in the history section, and the subsequent forecast section reflects our estimated projections for the next five years of operations which take into account all of the new activities and endeavors UNCG is engaged in. These metrics cover innovation disclosures, patent applications and issued patents, agreement activities, startup company formation, as well as royalties received from the licensing of university IP. Material transfer and confidentiality agreements are also included, as we believe they are indicators of increased collaborative activities and entrepreneurial efforts of UNCG’s faculty, staff and students. All of these metrics combined provide solid indicators as to the level of service the OIC provides to UNCG faculty staff and students, providing discussion points for how the OIC expects to maintain and improve its service offerings to the campus community.

All of these metrics are tied together through the “experience curve” as the OIC enters its tenth year of operations.

History (FY 2003-2011)

The first set of tables and figures below represent a quantitative analysis of OIC’s operations and successes for its first nine years of existence, through June 30th, 2011.

The increasing numbers of disclosures reflected in years 2002-2006 represent concerted outreach efforts to engage and educate faculty, staff and students across the campus. The subsequent leveling off in receipt of disclosures could be reflective of several issues, including a decline in outreach activities of OIC staff members due to resources committed to commercialization efforts of previously disclosed innovations, an overhaul of the Office of Research in 2009, and the lingering impact of our most recent economic recession as research funding is reduced. The significant increase in disclosures in the most recent year is indicative of the inclusion of outreach and economic engagement activities in the Promotion and Tenure metrics for faculty members, the start of the Joint School of NanoSciences and NanoEngineering with NCA&T and other partnerships, and the new Director’s outreach and education activities across the campus and the community.

Going forward through the next five years, we expect the culture towards innovation and entrepreneurial activities at UNCG to continue to evolve, encouraging faculty, staff and students to participate and engage in these types of efforts. Therefore, we expect innovation disclosure numbers from the institution to continue to exceed the national average as a result of all of these various activities, with other responsibilities of the OIC (patent applications, license agreements, contracts, options, material transfer and confidentiality agreements, and creation of Start-up companies) to also continue to increase, with a corresponding increase in licensing revenue coming into UNCG over time. We also expect to see an increase in building reciprocal, collaborative relationships with our community partners and regional industries as a result of our marketing outreach activities and the changing campus culture.

Table 1 below represents a quantitative analysis of the various activities associated with OIC’s operations for its first nine years of operation, from its inception in April of 2002 through June 30th, 2011. The rate of invention disclosures received indicate that this university is actually at a rate that is higher than the US national average of 1 disclosure
for every $2.7 million dollars received in research funding.\(^4\) Over the first nine years of its operations, the UNCG disclosure rate over this initial 9 year period has averaged 1 disclosure per $1.97M in research funding received by the institution.\(^5\) This reflects both “traditional” (hard science) disclosures that tend to come through academic commercialization efforts as well as “non-traditional” disclosures, indicating the broad range of UNCG innovations spanning departments across the institution.

### Historical Metrics

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Fiscal Year</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>10</td>
<td>14</td>
<td>18</td>
<td>23</td>
<td>18</td>
<td>19</td>
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<tr>
<td>Patent Applications</td>
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<td>2</td>
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<td>4</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Patents Awarded</td>
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<td></td>
<td></td>
<td></td>
<td>1</td>
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<td></td>
<td></td>
<td></td>
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<td>$29,719</td>
<td>$161,598</td>
<td>$200,743</td>
<td>$182,354</td>
<td>$120,523</td>
<td>$51,274*</td>
</tr>
<tr>
<td>Total # Pending Patent Applications</td>
<td></td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>17</td>
<td>23</td>
<td>26</td>
<td>33</td>
<td>35</td>
<td>32</td>
</tr>
</tbody>
</table>

The most recent numbers for fiscal year 2011 has seen a marked increase in the numbers new of activities the OIC is engaged in for the newest disclosures. These new projects add to the ongoing commercialization activities the OIC is engaged in. These historic facts are reflected in the number of active innovation disclosures (Figure 1 on subsequent page). The figure shows the numbers of disclosures received for each year (top portion of each bar), as well as those disclosures from previous years that remain “active” and are therefore included in the total count of active disclosures in process. It is important to note that a number of disclosures from each year remain active for several years, as the office markets or assists in finding routes for further development of the innovation, negotiates with potential licensees/partners, or monitors active license agreements.

\(^{4}\) 2009 AUTM Licensing Survey metrics, (http://autm.net/Home.htm) 20,309 disclosures received by AUTM institutions, with $53.9 Billion in research expenditures, for a disclosure rate of 1 per approximately $2.7M in research expenditures. ASTP (Association of European Science & Technology Transfer Professionals), in their 2006 Summary Report identified a rate of 1 disclosure per $3.4M in research expenditures for their members.

\(^{5}\) OIC Director’s own calculations: UNCG disclosure rate = (Yearly Research Expend/(Yearly Disclosures*1M))

\(^{6}\) Actual royalties due to UNCG from its licensees during Fiscal Year 2011 is $192,275. Approximately $141,000 of this amount consists of accrued royalties from two of our startups, Learning Together and P4DL, which have not been collected.
Active Disclosures

The disclosure figures from the initial four years, 2003 through 2006 indicate the initial phases of the Office – building capacity and infrastructure, implementing policy, and marketing the capabilities and services provided by the office to the University faculty, staff and students. As disclosures come into the OIC, they are assessed for commercialization potential, and a strategy is developed for those innovations identified as having a possible commercial market and viable path to market. As these activities are undertaken, the amount of ongoing “projects” (i.e. innovation disclosures with ongoing activities towards commercialization), continue to increase, putting pressure on the resources allocated to the OIC.

Active Patent Applications

As part of a commercialization strategy, IP protection in the form of patenting is sometimes identified as an appropriate step in facilitating that effort. Accordingly, just as active disclosures have increased each year, so too has the portfolio of active patent applications. As a result, the office’s case load has dramatically increased as reflected in the number of active disclosures and the number of pending patent applications (Figure 2). As more patents are filed on incoming innovations, the portfolio of active applications continues to grow. A group of various IP Counsel provides support for patenting activities to the OIC, building our network of support infrastructure available to move UNCG innovation forward; however this requires the management of costs and ensuring the most appropriate attorney is matched with the innovations being protected.
Pursuing patent protection is a lengthy process, with multiple conversion and decision points, and a typical 5-6 years from initial application filing to patent issuance. These must be managed appropriately, and time sensitive deadlines met to ensure no loss of rights that might be needed in a global market. UNCG makes its best efforts to invest in innovations with the highest probability of reaching some sort of market, and has managed to keep patent activities within a reasonable number, abandoning those whose path to market disappears. Figure 2 below demonstrates the increasing amount of the growing patent portfolio that must be managed by the OIC.

The slight downturn in this most recent year is reflective of strategically abandoning patent applications that no longer have commercial value. IP management will be an ongoing effort as we strive to maintain those applications which have the highest potential of reaching a commercial market. We expect UNCG’s patent portfolio to continue to increase with the rise in disclosures from the JSNN and other collaborative partnerships in the “hard-science” areas that tend to need patent protection for effective commercialization. This expectation is more thoroughly discussed in our forecast section below. License agreements, contracts, option agreements, MTAs and other agreements have also increased over the past nine years, all of which require monitoring for compliance and occasionally amendment of terms. As these collaborative relationships build throughout the institution, further strain is put on OIC resources.

**Royalty Income**

Royalty income to the university is a natural outcome of academic innovation commercialization activities, as innovations developed on campus are able to find their way to the appropriate marketplace. Figure 3 shows the revenues received by UNCG over the initial nine years of operations, reflecting monies received from licenses and agreements entered into from April 2001 through June 2011.

In this initial nine years, the OIC has been able to facilitate several licenses and partnerships that have moved innovation forward and have contributed to the royalty revenue generated by UNCG innovations. Our largest revenue source is a license agreement with a publishing company that distributes educational materials developed through a research partnership at UNCG. Another significant contribution to these revenues comes from an asset sale of the UNCG developed *Journal Finder™* in 2008 to a North Carolina based library subscription service company, with payments for that sale spread over 4 years (ending in 2011). The recent recession has had a detrimental impact upon some of our licensee’s ability to meet their royalty payment obligations, (as reflected in the last years drop in income – see footnote 6 above) and the OIC is working with those licensees to develop a plan to get back on track. Other educational innovations, including text books, online courses and assessment tools have all contributed to our existing revenue stream, reflecting the broad range and “non-traditional” (i.e. falling outside the hard sciences) aspect of UNCG innovations with commercial potential.
This revenue is split with the UNCG innovators, their schools and departments. For innovations developed under specific projects or without an ‘inventor’ per se (i.e. work for hire projects), 100% of those funds are retained in this account. The royalty fund retains the portion of these funds which are unencumbered. A possible use of these unencumbered funds may be to offset some of the increased patent funds needed to support the commercialization efforts of innovation coming from the JSNN as well as the expanding research capacity of our faculty across UNCG’s campus. Another way to utilize these funds may be to help with innovation development funding that can help to mitigate the risk and navigate the “Development Gap” often associated with university developed innovations, where additional development is needed to enable an innovation to successfully reach a commercial market. Both of these possibilities will be reviewed as possible ways to leverage this pool of available funds, and will be evaluated by the appropriate individuals on campus.

**Spin-Out Companies**

UNCG has consistently spun out startup companies around university developed innovations since 2002. A list of these companies, and their formation date, is shown in Table 2 below. Spinouts have formed around innovation from various parts of campus, reflecting both traditional strengths of UNCG, such as education, the performing arts, and human health, as well as in economics, biology, and nanotechnology.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Startup</th>
</tr>
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<tbody>
<tr>
<td>EcoGenomix</td>
<td>May 2002</td>
</tr>
<tr>
<td>SERVE Inc.</td>
<td>March 2003</td>
</tr>
<tr>
<td>The Learning Together Company</td>
<td>July 2004</td>
</tr>
<tr>
<td>Partnership 4 Dynamic Learning</td>
<td>March 2005</td>
</tr>
<tr>
<td>Prevention Strategies</td>
<td>October 2006</td>
</tr>
<tr>
<td>Best Friend Reverse Mortgage</td>
<td>July 2007</td>
</tr>
<tr>
<td>Science Lab Courseware</td>
<td>June 2008</td>
</tr>
<tr>
<td>Thermiacure</td>
<td>July 2008</td>
</tr>
<tr>
<td>Metis</td>
<td>June 2009</td>
</tr>
<tr>
<td>NuDelta Digital</td>
<td>January 2010</td>
</tr>
<tr>
<td>Digital Languages</td>
<td>October 2010</td>
</tr>
</tbody>
</table>

OIC assists these spinout companies by acting as consultants, providing assistance with marketing, connecting the inventors to other University and external resources, and helping to recruit management personnel. As the OIC interfaces well with the NC Entrepreneurship Center and the SBTDC representatives on campus, a full spectrum of services can be provided to these nascent companies. Several of these companies rely heavily on OIC’s direct support in planning as well as execution stages, and the demand for OIC’s services has risen as the number of spinout companies has increased. We expect this trend to continue as we move forward into the next five years.
Forecast (FY 2012-2016)

Because new technologies are being introduced and commercialized with ever increasing speed, it is imperative that the OIC develop appropriate commercialization strategies for innovations in a timely and effective manner. In order to be successful in providing value to the UNCG innovations, the OIC will need to spend an increasing amount of time and effort developing effective and rapid marketing techniques with potential business partners and key opinion leaders to help drive effective decisions about resource allocations to UNCG innovations. As patents are utilized as part of this strategy, the activities associated with managing a patent portfolio will continue to increase over time. As innovations mature to a point of licensing and/or forming a spin out company, the amount of time and effort the OIC will be required to spend increases with these successful innovations, as a relationship is established with the licensee. The need for more business development resources will be imperative for continued successful innovation commercialization.

We expect the culture towards innovation and entrepreneurial activities at UNCG to continue to evolve, encouraging the participation of faculty, staff and students. As this institution strives to increase research activities across the campus, we estimate that the rate of invention disclosures, patent applications, agreements and other activities will continue to grow. Other drivers for the expected increasing disclosure rate at UNCG include the newly revised Promotion and Tenure Metrics, the marketing efforts the OIC is engaged in across the campus, JSNN, DHMRI and other collaborations (Wake Forest, Duke, etc.), as well as an increased level of community and outreach engagement and economic development activities. Increasing innovation disclosures will inherently increase the corresponding workload in terms of commercialization efforts and activities including: marketability assessments, outreach and networking activities, various agreements with industry partners, patent filings and other forms of IP protection, etc.

Licenses and other agreements are expected to continue to rise due to the existing pipeline of projects and the expected increase in research activity as the institution grows its research infrastructure and continues to engage with the Piedmont Triad community and develop collaborative partnerships. Maximizing the impact of these innovations will require increased efforts through the whole lifecycle of these potential assets.

The second set of tables and figures below represents the forecasted figures and metrics for OIC’s operations expected during the period covered during this Strategic Plan, from July 1st, 2011 through June 30th, 2016.

Forecasted Metrics

<table>
<thead>
<tr>
<th>Table 3</th>
<th></th>
<th></th>
<th></th>
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<tr>
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</tr>
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<td>Start-up Companies</td>
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<tr>
<td>Revenue</td>
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<td>$125,000</td>
<td>$140,000</td>
<td>$180,000</td>
</tr>
<tr>
<td>Total # Patent Applications in Process</td>
<td>43</td>
<td>51</td>
<td>61</td>
<td>69</td>
<td>78</td>
</tr>
</tbody>
</table>
**Potential Active Disclosures**

Figure 4 below includes the expected yearly innovation disclosures (from Table 3 above) to be received by the OIC, as well as the expected ongoing disclosures active with commercialization efforts during this five year plan. Disclosures that are expected to remain active from previous years (based upon our historical rate of active disclosures) are included in the total count of ongoing commercialization efforts in process. This graphic reflects the expected increasing workload as it pertains to disclosures through fiscal year 2016.

![Projected Disclosures in Process 2012-2016](image)

This forecast illustrates our expectation of continued growth of the number of innovation disclosures coming in to the OIC based upon the increasing innovative and entrepreneurial culture at UNCG, and the expanding research capacity of the institution. Additionally, the expanded activities of the Chemistry & Biochemistry department in natural products and drug discovery, innovation activities in support of “Health and Wellness across the Life Span,” the Joint School of NanoScience and NanoEngineering and other partnerships with regional institutions will all drive additional disclosures coming into the OIC over the next five-year period.

The recent past has seen an increase in sponsored research levels at UNCG, and as sponsored research dollars at UNCG continue to grow towards the goal of obtaining $60 million in research funding by 2016 set by the Chancellor several years ago, so shall the expected rate of invention disclosures, as reflected in the graphic above. Ensuring the OIC has the proper resources in place to continue providing quality value-added support to our campus innovators through this expected expansion is key to the continued success of the operation.

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7 From UNCG Strategic Plan 2009-2014
**Potential Active Patent Applications**

UNCG’s patenting activity has been historically limited to those innovations where a patent can bring additional leverage to the commercial potential. This trend will continue as OIC intends to continue to be good stewards of the university’s investment in intellectual property protection.

The historical rate of patent application per disclosure over the last 7 years of operations has been at about .37, or UNCG has a patenting ratio of 1 patent for approximately every 3.7 disclosure received. This is an extremely rough ratio, recognizing that innovations needing patent protection for commercialization efforts may turn into several applications, and many innovations at UNCG do not utilize patent protection to leverage commercial activities. With that being said, this rough patent ratio estimate has been utilized to project the potential patent applications UNCG will file over the following 5 year period.

As UNCG’s level of active patent applications continues to grow, they will have an impact not only upon the resources of the office, but associated costs with maintaining that pool of patents (Figure 5). This increasing level of active patent applications is driven by several things, including: the conversions of quality provisional applications into utility or PCT (international) applications, converting PCT applications into the appropriate international applications that will support entrance into a commercial market, patent office actions that divide single applications into two or more, and continuations of applications in order to introduce new material related to an innovation under patent prosecution. All of these actions have the potential to increase the numbers of patents associated with an innovation.

**Royalty Revenue Projections**

Royalty income received in the initial nine years have been all from innovations considered ‘non-traditional’ to academic innovation commercialization efforts, with forms of IP protection primarily in the copyright, trademark, and know-how arenas. All of these innovations having been developed through the School of Education, the School of Health and Human Sciences, the School of Music, Theater & Dance, or the SERVE Center.

As the more traditional disclosures in the ‘hard sciences’ including nanotechnology and the life sciences are often very nascent and require many years to develop into a commercial product or service, any potential royalty income will be several years in the future. As these ‘traditional’ innovations mature and become ripe for licensing, income from the commercialization of those innovations is expected to rise over time, but as development of those innovations will require time to bring the product or service closer to a commercial market, royalty income from these innovations coming into UNCG is not expected until towards the end of this five year plan, if not later.

Figure 6 provides a visual representation of the potential revenues expected over the next five years of operations, reflecting ongoing revenues expected from licenses entered into during the initial inception period through 2011, new licenses and collaborations that may be entered into by UNCG during this next five-year period, as well as potential income from new spin-outs created around University owned innovations. As noted above, during the
period of this strategic plan, royalty income is expected to continue to stem from innovations that are closer to market in their development stage. Revenue streams from the early stage ‘hard science’ innovations may begin to have an impact upon the revenue stream later in this five year period.

As noted, these revenue projections take into consideration existing license agreements through 2011, those licensees who have been behind in their royalty payments (with plans to make up that delinquency), collaborative efforts currently underway, as well as possible agreements that may be entered into later in this plan due to ongoing projects currently in the innovation pipeline.
Goals and Objectives

This section lists the primary goals and objectives the Office of Innovation Commercialization will undertake for fiscal years 2012 through 2016. Each of these goals has been identified as strategic activities that will help OIC support the innovative culture across the UNCG campus through the upcoming five years.

1. Implementation of a Marketing Plan for OIC (FY 2012-13)
   OIC has developed a marketing plan to support its overall growth, and will be implementing that plan in the first two years of this Strategic Plan. The executive summary of that Plan is incorporated into this document in Appendix A. The plan aims to (a) increase the knowledge across campus as to OIC’s capabilities and range of services provided; (b) expand the local support for campus innovators; and (c) increase the external visibility of UNCG innovation and expand OIC’s external network. The Marketing Plan will be approved by September 1st, 2011. The marketing efforts will run throughout fiscal years 2012 and 2013. The effects of this marketing push will be assessed in a follow-up campus survey, the results of which will be presented by December 31, 2013.

2. Solidify UNCG’s role with the Joint School of NanoScience and NanoEngineering (FY 2012-16)
   Innovation disclosures from faculty, staff and students at the Joint School of NanoScience and NanoEngineering (JSNN) are increasing, and the OIC is currently working closely with the Office of Technology Transfer at NCA&T to identify ways to best support innovation commercialization. These efforts focus on (a) establishment of appropriate policies and procedure for innovation assessment and commercialization; (b) maintaining lines of communications among the OIC, Gateway University Research Park’s Director of Outreach and Commercialization, and NC A&T’s Office of Technology Transfer; (c) meeting the need for a physical presence of OIC staff at JSNN, establishing a joint office with NCA&T. OIC’s service to JSNN will continue to grow throughout fiscal years 2012-2016.

3. Design and implement a IP Assessment Toolkit for innovation assessment (FY 2012)
   OIC has recognized a need for a uniform, standardized, fair and transparent innovation and IP assessment process. An Innovation Assessment Tool will be developed that will assist with decisions regarding what, how, and when to patent an innovation that will assist the OIC and the ICAB. The system will provide uniform communication with the ICAB, as well as a fair and transparent evaluation and decision process for faculty, staff and student innovations. OIC will explore ways to implement this toolkit with the database system to improve the overall functionality. Similar processes established by other innovation and technology commercialization offices will provide best practices and will act as a starting point for developing a similar system at OIC. A beta version of the tool will be launched July 5th, 2011, and with incorporation of additional data will have finalized tool by June 30, 2012.

4. Form an Innovation Commercialization Advisory Board (FY 2012-13)
   The OIC will work with the AVCED to establish the Innovation Commercialization Advisory Board (ICAB), which will include members with diverse backgrounds selected from the campus and local community. This board will assist the OIC in finding the most appropriate path for the commercial development of UNCG innovations, acting as an appeals court for inventors as needed. Where appropriate, the board may also assist and support UNCG inventors with networking opportunities, spin out company formation, patenting issues and other related matters. The process of formation of the ICAB will begin during the fall 2011
semester, and a committee will be in place by fall 2011, with the first meeting to be held no later than Dec 2011.

5. **Organizational realignment and structure (FY 2012-13)**
Under the first year of this plan, OIC will be formalizing its new reporting relationship to the Vice Chancellor of Research and Economic Development, ensuring its activities are purposely aligned with and support the ORED’s overall mission and objectives.
Within the first year and a half of this five-year strategic plan, it is expected that the office will have continued to grow substantially in activities and responsibilities. OIC will evaluate responsibilities, division of labor and work flow in order to determine appropriate areas which require modification, assistance and additional support. A new full-time position is expected to be established around those specifications and a new hire in the form of a Licensing Associate for the OIC is expected in January 2013.

6. **OIC Database Assessment (FY 2012-13)**
The current database utilized by OIC (InnovoTrac) was implemented upon the recommendations of the NC University General Administration. The current version is functionally in beta mode and lacks solid financial and reporting modules. A committee of various stakeholders, internal and external to OIC and UNCG will be formed by January 2012 to assess the database’s ability to meet the needs of OIC in its project and client management efforts. A final report from that committee is expected by April of 2013. The committee’s recommendations will guide any future decisions regarding OIC’s continued utilization of the current database.

7. **Revision of OIC website (FY 2012-16)**
The office’s website, [http://www.uncg.edu/innovate/](http://www.uncg.edu/innovate/) serves multiple functions, including providing innovators with information on the commercialization process and the office’s services, and serves as a portal for the campus and beyond to learn about innovation commercialization at UNCG. OIC will on an ongoing basis create and feature stories on UNCG inventors, innovation initiatives, and the like. UNCG innovations will be more efficiently showcased by implementation of an interface with the current database. Content of other pages will be completely revised in alignment with the new UNCG Inventor’s Handbook that has an expected completion date of July 1, 2011. Major revisions will be complete by December 31st, 2012, with ongoing updates through FY2016.

   a. In the first year of this plan, the OIC will work with the University’s legal counsel to address matters and possibly establish policy related to Trademarks generated from entrepreneurial and innovative activities of UNCG’s faculty, staff and students.
   b. In the latter two years of this plan, OIC shall, with guidance and support from university legal counsel, review the current UNCG Patent and Invention Policy for appropriate changes or updates that need to be made. The review will (a) clarify ownership of innovation derived from work by students and volunteers; (b) incorporate innovation activities as they pertain to promotion and tenure guidelines; (c) outline the process of innovation commercialization for inventions developed in partnership with another institution; (d) incorporate activities and responsibilities of the ICAB. A formal committee will be formed by February, 2014 which will assist in reviewing the policy. Once reviewed, the draft will be formulated by August, 2015 and will receive all necessary approvals by spring of 2016.
9. **Organize an Annual Recognition Event with UNCG start-ups, licensees, inventors and community representatives (FY 2013-16)**

   OIC will organize an annual celebratory event wherein all UNCG startup companies, UNCG inventors and licensees as well as representatives from the business community will be invited with an intention to maintain contact, celebrate successes, provide support, and encourage networking opportunities. We will evaluate the possibility of co-hosting this event with a local partner, such as NCEC, SBTDC, the Nussbaum Center for Entrepreneurship, or Greensboro Partnership. OIC plans to organize the first event in late spring of 2013, as part of the final implementation of its marketing plan.

10. **Phase II of ICA/IDTI (FY 2012-14)**

    OIC will work with the Associate Vice Chancellor for Economic Development and the Vice Chancellor for Research at UNCG to create task teams and evaluate lessons learned from UNC General Administration’s initiatives: “Innovate, Collaborate, Accelerate” (ICA) and “Innovation Development and Transfer Initiative” (IDTI), in order to implement best practices as they apply to UNCG. The OIC Director will be responsible for leading a task team toward streamlining processes (legal forms, policies, workflow around industry collaborative agreements, etc.) at UNCG, to facilitate and expedite agreement negotiations with any collaborators. This task team will be implemented by fall of 2011, with final analysis and streamlining of any processes to be complete by December of 2013.

11. **OIC assessment (FY 2013-16)**

    Two evaluations of the OIC will be performed during the following five year period:

    (a) A self-evaluation through a campus survey at the end of two year marketing campaign (fall of 2013).

    (b) OIC will work with the AVCED to invite a review board to act as an assessment committee to evaluate its performance and give suggestions that will provide support for the development of the next strategic plan. This committee will be assembled and a charge provided to the committee by January 2014, with a final report of the evaluation expected to be presented in the summer of 2016.

12. **Support UNCG in evaluating IP related matter for all agreements (FY 2012-2016)**

    The OIC will work with other departments across campus and UNCG Legal Counsel to provide a full spectrum of support and services to the innovative and entrepreneurial individuals across the campus community. The OIC will work with the appropriate units to achieve effective, flexible, and timely interactions with industry partners to enhance the University’s research capacity. In this regard, the OIC will review IP terms and conditions of such agreements, and contribute additional capacities as needed. The OIC will provide timely response to this need from across campus, and will provide guidance on IP clauses within 7 business days of receipt of such request. This involvement will be ongoing throughout the five-years.

13. **Study feasibility of establishing an Innovation Development Fund (FY 2016)**

    OIC will lead a study to determine the feasibility of establishing an Innovation Development Fund for inventions developed at UNCG. Other academic institutions that have been successful in the implementation of such a fund will be reviewed for best practices and how they might be utilized for UNCG. This study and recommended outcomes will be completed by December of 2015.
14. Addition of licensing assistant position, provision of training opportunities (FY 2014-16)

In order to address the increasing activities in conducting market assessments and patentability assessments for invention disclosures, OIC recommends the addition of one additional licensing assistant from the graduate student body in fall of 2013. The OIC has provided opportunities for graduate students to “put theory into practice” since its inception, and has excellent relationships with several graduate programs who all vie to place students in the positions that come available through the OIC. All licensing assistants act as professionals to the operation and receive training opportunities each year in order to maximize the resources available with minimum costs to the operation. It is expected this position will be posted by August 1, 2013, with the position filled by September 1, 2013. As students graduate and new licensing assistants are hired, training will be provided through internal and external resources. This training will be ongoing throughout the five year Plan.

15. Assess the need and ability to audit licensees (FY 2015-16)

OIC will form a committee of appropriate individuals who can analyze and assess the need and benefits of auditing its licensees. This committee will be formed by January 2014, to analyze the appropriate time to have an external audit done of UNCG licensees, and to help determine what resources will be utilized toward this effort. This committee will identify the cost associated with such an audit and weigh it against any associated benefits to determine feasibility. This committee will include representatives from our Government Relations Office as well as our Risk Management Office. The committee will be expected to provide recommendations by December of 2015.
Conclusion

The foregoing Strategic Plan for the OIC has been offered as an assessment of our current situation and plan for moving the OIC forward through 2016, while successfully meeting the innovation commercialization objectives of UNCG’s innovative faculty, staff and students, including the faculty of the JSNN and other collaborative efforts with regional partners.

Goals contained herein have been strategically determined based upon historical evidence of the expanding innovative capacity at UNCG, as well as the strategic direction chosen by the leaders of the institution. We aim to continue to keep costs of providing these services low throughout the following five years while providing quality, value added service toward commercialization efforts of UNCG’s innovators.

Signed:

Lisa Goble:

Director, Office of Innovation Commercialization

University of North Carolina at Greensboro
Appendices
Appendix A (Marketing Plan Executive Summary)

The Office of Innovation Commercialization (OIC) wishes to engage in a marketing effort that will effectively inform the campus and the Piedmont Triad community about the services it offers as well as share information on the innovative capabilities of the University. A Marketing Plan has been developed that provides a roadmap towards those efforts. The effort is motivated in part by the reorganization of the Office of Research and Economic Development (ORED), new staff members and responsibility growth of the OIC, and recognition of the need to further support and encourage innovative and entrepreneurial activities across campus. There is a growing need campus wide for services provided by the OIC, which include licensing, commercialization planning and market research, supporting small business formation, as well as fostering industry collaborations and private partnership opportunities.

There are several indicators that suggest a need to better share information on the capabilities of the OIC through the efforts outlined herein: a recent internal survey conducted by the OIC, a university system-wide Innovation Development and Transfer Initiative (IDTI) designed to support innovation, collaboration and acceleration throughout the University of North Carolina campuses across the state, and recommendations put forward by an OTT assessment committee in July 2008. The recent name change of the office and our desire to increase the knowledge level regarding our services across the University of North Carolina at Greensboro (UNCG) campus and throughout the region also help to drive the goals and objectives in this Plan.

The goals and objectives in this effort for the OIC have three main themes:

- **In-Reach** activities focused on the campus community, designed to enhance awareness to the campus community as to the efforts and services provided by OIC, and supporting the campus’ culture shift toward innovative activities;
- **Boundary Spanning** activities that include campus and community interactions, support of collaborative partnerships, and engagement with regional economic and innovation development agencies;
- **Outreach** activities focused upon strengthening existing and creating new relationships with regional industry partners and Piedmont Triad economic development groups.

While aspiring to improve its satisfaction rating amongst campus customers, the OIC expects as an outcome of the activities offered in this Marketing Plan to see an increase in numerous metrics. Specifically, an increase in the number of innovations disclosed is expected, but we also expect to see increases in confidentiality agreements, material transfer agreements, patent applications, licensing, as well as small business formation. Faculty, student and staff awareness and knowledge of the services provided by the OIC is expected to increase, as well as satisfaction levels with the services provided by the OIC. Longer term, we expect to see increases in collaborative, reciprocal relationships between UNCG faculty and industry partners. Correspondingly, we expect to see an increase in royalty revenues received by the University as an outcome of these increased collaborative efforts and partnerships over the long term.
Appendix B (Assessment Committee’s Recommendations)

Recommendations were included as part of the Assessment Committee’s report on the operations of the office in 2008. The appropriate recommendations from this report applicable to this Strategic Plan for fiscal years 2012 through 2016 are incorporated into the goals and objectives herein. We carefully considered the following relevant recommendations while formulating our strategic goals and objectives for the next five years.

- It is essential that staffing levels and resource allocations be determined in conjunction with the full spectrum of OIC programs and priorities.

- As with staffing, it is essential to develop a realistic and appropriately calibrated approach to patenting; strategic management of the patenting process and of patent resources does not always equate to number of patents filed or issued.

- Secure state funding for some portion of the personnel expenditures.

- If growth in disclosures continues, employment model may need to shift to provide an additional permanent licensing associate and a concomitant reduction in student assistance.

- Excellent involvement and presence in larger Piedmont Triad Community economic development projects and small businesses operations.

- Good initial involvement in entrepreneurial ventures on and off campus.

- It will be important to determine how far and wide the OIC can reach in its community involvement. Winston-Salem is a vital contributor to the economic well-being of the region and cooperation with that area may be fruitful. However, we believe the Strategic Plan will need to identify geographic priorities as related to potential innovation projects to determine the best use of staff resources.

- The OIC should fully develop its relationship to the Piedmont Triad Region’s growing entrepreneur network by being active with appropriate networking groups that arise.

Based on these observations, the Assessment Committee offered the following additional targeted recommendations:

- Allocate funding, staff, time, and other resources to support community relationship-building.

- Market the successes of the OIC to UNCG and the wider community. Produce a campus-wide research fair to highlight the current research projects and technology transfer initiatives underway.

- Add more full-time and permanent staff.

- Increase the interface between OIC and the academic community. For example organize faculty lunches, a research fair, and forums hosted by the Faculty Senate.

- Concerted effort is need to educate a broad segment of faculty about technology commercialization and help them get started in that area.
Appendix C (Floor Plans)