Inspire.  Change.

An Inventor’s Guide to
Innovation Commercialization
at
The University of North Carolina
at Greensboro

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Office of Innovation Commercialization
Mission Statement:

As part of its educational, research, and service mission, UNCG is dedicated to the transfer of its research and technology to the public sector for the general economic benefit of Greensboro, the Piedmont Triad and North Carolina.

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.

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University of Michigan is gratefully acknowledged for allowing UNCG to reproduce elements of “An Inventor’s Guide to Technology Transfer” within this document.

www.uncg.edu/innovate
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What is Innovation Commercialization?
Innovation Commercialization is the transfer of university innovation to the public through a formal licensing process under the guidance of professionals employed by the university.

What is UNCG OIC?
UNCG OIC serves the university and the public by commercializing discoveries developed by UNCG faculty, staff and students. OIC also assists faculty in obtaining research support from corporate sponsors. OIC offers consultation on intellectual property, assesses the commercial potential of university innovation, negotiates licensing agreements, administers the patent process, and provides support for UNCG inventors.

Why would a researcher want to participate in the Innovation Commercialization Process?
The reasons are unique to each researcher and may include:

- Attracts sponsored research
- Achieving recognition and financial rewards
- Generation of income for university and researchers
- Positively impact society
- Develop closer ties with industry
- Creating opportunities for graduates
- Influential in consideration for promotion and tenure

How are innovations commercialized?
Innovations are typically transferred through a license agreement in which the University grants its rights in the defined technology to a third party for a period of years, often limited to a particular field of use and/or region of the world. The licensor (the third party licensing the technology) may be an established company or a new business start-up. Licenses include terms that require the licensee to meet certain performance obligations and to make financial payments to the University. These payments are shared with the inventors and are also distributed to the schools/colleges, departments/units, and central administration to provide support for further research, education, and participation in the innovation commercialization process.
The University of North Carolina at Greensboro will redefine the public research university for the 21st century as an inclusive collaborative, responsive institution making a difference in the lives of students and the communities it serves.

-UNCG Vision & Mission Statement

What is the Bayh-Dole Act?
The U.S. Bayh-Dole Act of 1980 allows universities and other non-profit institutions to have ownership rights to discoveries resulting from federally funded research, and exclusively license these discoveries to other parties, provided certain obligations are met. These obligations include making efforts to protect (when appropriate) and commercialize the discoveries, submitting progress reports to the funding agency, giving preference to small businesses that demonstrate sufficient capability, and sharing any resulting revenues with the inventors. With the passage of the Bayh-Dole Act, universities have developed and strengthened the internal expertise needed to effectively engage in patenting and licensing. The Bayh-Dole Act is credited with stimulating interest in tech transfer activities and generating increased research, commercialization, educational opportunities, and economic development in the United States.

Throughout this manual, the term "invention" will mean any innovation, technologies or process, device, contrivance, machine, manufacture, design, or composition of matter and new and useful improvement thereof. Also, any variety of plant or any computer software originated from a discovery or finding resulting after study, research, experimentation, whether or not patentable under law.
The Innovation Commercialization Process

How do I work with UNCG OIC?
We encourage you to contact OIC during early research activities, as OIC’s staff are trained to assist you in every phase of commercialization, from initial consultations and technology assessments to marketing, licensing and business start-up. We cultivate a network of business partners and experts to further facilitate progression of the invention to the marketplace. Active participation of the inventor is essential.

10 Steps to Commercialization

1. **RESEARCH:** Observations and Experiments during research activity often lead to discoveries and inventions. An invention is any useful process or machine, composition of matter or any new and useful improvement of the same. Often, multiple researchers may have contributed to the invention.

2. **OIC Contact:** Contacting the OIC personnel as soon as possible to discuss your innovation and to provide guidance with respect to the disclosure, evaluation and protection processes described below.

3. **INNOVATION DISCLOSURE:** The written notice of innovation to OIC that begins the formal technology transfer process. An invention disclosure remains a confidential document and should fully document your innovation so that the options for commercialization can be evaluated and pursued.

4. **ASSESSMENT:** The period in which you and your OIC representative review the innovation disclosure, conduct patent searches (if applicable) and analyze the market and competitive technologies to determine the innovation’s commercialization potential. This process, which may lead to a broadening or refinement, will guide our strategy on whether to focus on licensing to a particular company or creating a new business start-up.

OIC serves the faculty, staff & students in the following capacities:
- Protecting UNCG IP (Intellectual Property)
- Marketing & Licensing UNCG Innovations
- Negotiating license agreements
- Consulting with Sponsored Research on IP
- Ensuring University compliance with federal regulations related to IP
- Educating the UNCG community regarding IP & the commercialization process

What are the typical steps in the process?
The process of technology transfer is summarized in the following table. A helpful diagram is also located on the OIC’s Website (http://www.uncg.edu/innovate/tech_transfer_graph).
5 Commercialization Plan:
A strategy for commercialization of the innovation is created. This plan takes into consideration the market, competitive advantage from the present state-of-the-art, potential licensees and steps for protection of the intellectual property. The plan recognizes the investment UNCG must make and the probable “return on the innovation”. The plan sets the steps to be taken to obtain a third party partner to continue the commercialization process.

6 Marketing:
With your active involvement, OIC staff identify candidate companies that have the expertise, resources and business networks to bring the innovation to market. This may involve partnering with an existing company or forming a start-up. *Your active involvement can dramatically shorten this process.*

7a Form a Start-Up:
If creation of a new business start-up has been chosen as the optimal commercialization path, OIC will connect you with partners such as the Small Technology and Business Development Center (SBTDC) and the North Carolina Entrepreneurship Center, which will assist in planning, forming, and funding the startup.

7b Existing Business:
If an appropriate and interested existing company or companies are selected as a potential licensee, OIC works with those potential licensees to develop the appropriate financial and diligence terms to fully commercialize the innovation.

8 Licensing:
A License Agreement is a contract between the University and a third party in which the University’s rights to an innovation are licensed, without relinquishing ownership, for financial and other benefits. A license agreement is used both with a new start-up business or with an established company. An option agreement is sometimes used to enable a third party to evaluate the innovation for a limited time prior to making a decision about licensing.

9a Commercialization:
The licensee continues the advancement of the innovation and makes other business investments to develop the product or service. This step may entail further development, regulatory approval, sales, and marketing support, training, and other activities.

9b Revenue:
Revenues received by the University from licensees are distributed to schools, departments, units, central administration and inventors to fund additional research, educations/commercialization and to encourage further participation in the commercialization process.

10 Sponsored Research:
The licensee may choose to sponsor research at the university to further development of the innovation.
How long does the innovation commercialization process take?
The process of protecting the innovation and finding the right licensing partner may take months—or even years—to complete. The amount of time will depend on the development stage of the innovation, the market for the innovation, competing innovations, the amount of work needed to bring the new concept to market-ready status, and the resources and willingness of the licensees and inventors.

How can I help in this process?

- Call UNCG OIC at 336.256.2047 when you believe that you have created or discovered something unique with potential commercial or research value.

- Complete and submit the OIC Disclosure Form (see www.uncg.edu/innovate/forms) before publicly disclosing your innovation or submitting a manuscript for review and publication.

- To avoid risking your patent rights and possibly hindering the opportunity to market your innovation, contact OIC before holding any discussions regarding your innovation, unless an NDA has been signed.

- On the OIC Disclosure Form, include companies and contacts that you believe might be interested in your innovation, or who may have already contacted you about your innovation. Studies have shown that over 70% of all licenses are executed with commercial entities known by the inventor, so your contacts can be extremely helpful.

- Respond to OIC and outside patent counsel requests. While some aspects of the patent and licensing process may require significant participation on your part, we will strive to make efficient use of your valuable time.

- Keep OIC informed of upcoming publications or interactions with companies related to your innovation.
**RESEARCH CONSIDERATIONS**

**MATERIAL TRANSFER AND CONFIDENTIALITY AGREEMENTS**

**Will I be able to publish the results of my research and still protect the commercial value of my intellectual property?**
Yes, but since patent rights are affected by these activities, it is best to submit an Invention Disclosure (see page 12) well before communication or disclosing your invention without the proper protection. There are significant differences between the US and outside countries as to how early publication affects a potential patent. Once publicly disclosed (published or presented in some form), an invention may have restricted or minimal potential for patent protection outside of the United States. Be sure to inform the OIC of any imminent or prior presentation, lecture, poster, abstract, website description, research proposal submission, dissertation/masters thesis, publication or other public presentation including the invention.

**May I use material or intellectual property from others in my research?**
Yes, but it is important to document carefully the date and conditions of use so that we can determine if this use may influence the ownership and license rights of your research results. If you wish to obtain materials from outside collaborators, an incoming Material Transfer Agreement should be completed. For more information on incoming MTAs, contact OIC at 336.256.2047

**Will I be able to share materials, research tools or intellectual property with others to further their research?**
Yes. However, it is important to document items that are to be shared with others and the conditions of use. If you wish to send materials to an outside collaborator, an outgoing Material Transfer Agreement (MTA) should be completed for this purpose. It also may be necessary to have a Confidentiality Agreement completed to protect your research results or intellectual property. Contact OIC at 336.256.2047 to assist you in completing outgoing MTAs and Non-Disclosure Agreements.
What rights does a research sponsor have to any discoveries associated with my research?
The Sponsored Research Agreement should specify the Intellectual Property (IP) rights of the sponsor. The University generally retains ownership of the patent rights and other intellectual property resulting from sponsored research. However, the sponsor may have rights to obtain a license for any patent or intellectual property rights developed as the result of the research. Often, sponsored research contracts allow the sponsor a limited time to negotiate a license for any patent or intellectual property rights developed as the result of the research. Even so, the sponsor generally will not have contractual rights to discoveries that are clearly outside of the scope of the research. Therefore, it is important to define the scope of work in a research agreement. Sponsored research projects are handled by Office Sponsored Programs (OSP) project representatives who work closely with OIC on IP issues in sponsored research agreements. If you have questions about sponsored research, please contact the OSP project representative responsible for the sponsor.

What about consulting?
All consulting services are to be obtained in concurrence with established University policy. Some of the established and more significant policy elements are as follows: Full-time University and other State employees are not authorized to be paid consultant fees by the University. This restriction also applies to corporations and partnerships in which an employee of the University or faculty member serves as either a principal or employee. Payments to former University employees for consultant services will be closely scrutinized and may require additional documentation to verify status as an independent contractor. Intra-University consulting (consulting across department lines) is intended to meet those needs where project participation by certain University faculty members is nominal and it is contemplated that the faculty member will participate in the project from his/her “free” or “uncommitted” time. The term “free” or “uncommitted” time as used herein refers to time over and beyond that required to fulfill basic faculty responsibilities. The term extramural effort is also frequently applied to describe work done during this time. Effort of this nature should not be disproportionate or unreasonable in light of the faculty member’s other research and instructional commitments. Intra-University consulting must be approved in advance by the sponsoring agency. Normally, identification of the faculty members by name in the proposal narrative and budget is sufficient. To preclude any confusion of intra-University consultation payments with the normal personnel activity report certification process (the major goal is to sustain the propriety of professional salary charges to awards), requests for payment should, consistent with fact, certify that the effort was from “free” or “uncommitted” time of a faculty member.

MATERIAL TRANSFER AGREEMENTS:
A MTA is used when a researcher sends out or receives tangible research material, such as biological materials or chemical compounds. The agreement enables researchers to share materials while safeguarding proprietary rights to the materials and also deal with issues such as liability, publication and allowed use of the materials. Materials can be cell lines, viruses, bacteria, monoclonal antibodies, compounds, etc. and even some kinds of software.

CONFIDENTIALITY AGREEMENTS:
A CDA should be obtained before discussing an invention or technology with anyone outside the University, such as a company or colleague at another institution. Companies may ask researchers to sign CDAs prior to discussing any possible research collaborations. A CDA should be reviewed by OIC and signed by the Vice Chancellor of Research and Economic Development.
What is an Innovation Disclosure?
An Innovation Disclosure is a written description of your invention or development that is provided to OIC, beginning the process of commercialization. The Innovation Disclosure should include a description of the invention, funding sources for any research, prior publications or public descriptions of the invention and commercial contacts in the field of the invention. To ensure the best protection, the disclosure should be completed as soon as possible, well before the invention is described in a public context. This document will be treated as “University Confidential.” Based on the Innovation Disclosure, OIC may generate a non-confidential description of your invention in order to assist in marketing it. Once potential partners have been identified, and confidentiality agreements have been signed, more detailed exchanges of information can be made.

Why should I submit an Innovation Disclosure?
When you disclose your innovation to OIC, it starts a process that could lead to commercialization of your innovation. This may involve beginning the legal protection process and working to identify outside development partners. Public disclosure prior to filing a patent application will eliminate the opportunity for patent protection abroad and will limit the time to file for protection in the United States. If government funds were used for your research, you are required to file a prompt disclosure which will be reported to the sponsoring agency. Similar requirements may exist for other sponsored projects.

How do I know if my discovery is an innovation?
You are encouraged to submit an Innovation Disclosure for all discoveries and developments that you feel may solve a significant problem and/or have significant value. If you are in doubt, contact OIC to discuss the invention and strategies for commercialization.

When should I complete an Invention Disclosure?
You should complete an Innovation Disclosure whenever you feel that you have discovered something unique with possible commercial value. This should be done well before presenting the discovery through publications, poster sessions, conferences, press releases, or other communication. Once publicly disclosed (i.e., published or presented in some form), an invention may have restricted or minimal potential for patent protection outside of the United States. Differences exist between the U.S. and other countries regarding the impact of early publication on a potential patent. Be sure to inform OIC of any imminent or prior presentation, lecture, poster, abstract, website description, research proposal, dissertation/masters thesis, publication, or other public presentation including the invention.
**Should I disclose research tools?**

Yes, if your new tools would benefit other researchers and you are interested in providing them to those researchers and to other third parties. Typically, research tools are materials such as antibodies, vectors, plasmids, cell lines, mice, and other materials used as “tools” in the research process. Most research tools do not necessarily need to be protected by patents in order to be licensed to commercial third parties and/or to generate revenue for your laboratory. If you have research tools that you believe to be valuable, or wish to provide to others (including research collaborators), OIC will work with you to develop the appropriate protection, licensing, and distribution strategy.

**How do I submit an Invention Disclosure?**

You can download a disclosure form and simple instructions from www.uncg.edu/innovate/forms. New invention disclosures are assigned weekly to an OIC licensing specialist. If you have any questions call the OIC at 336.256.2047.

**Who is considered an inventor for the purposes of innovation commercialization?**

Inventorship is not the same as authorship. Inventorship is legally defined while authorship is much more subjective. U.S. patent law defines an inventor as an individual that contributes in whole or in part to the conception of the invention. Conception can be generally defined as completion of the mental part of the invention. The inventor must form a definite and permanent idea of the complete and operable invention to establish conception. Any individual who contributes to the conception of any claim on a patent should be listed as an inventor. Persons that contribute solely to the reduction of the invention to practice are not considered inventors. This is a very technical and important area of law when in comes to protecting an invention with a patent. Be sure to contact the OIC immediately with any questions or concerns regarding inventorship.

**CONFIDENTIAL**

This document and its contents are considered the property of the University of North Carolina Greensboro. All information contained within this document is confidential and not to be distributed to the general public.

**INNOVATION DISCLOSURE FORM**

*For Office Use Only:*

- Disclosure No: ___________
- Date Received: ___________

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**Note:**

1. Read and fill out completely all sections of the Innovation Disclosure Form. If you need additional space, please write your comments on another page and attach it to the original disclosure form. Try to include as much information as possible. Our staff works most efficiently when the inventor supplies all relevant information with the disclosure form.
2. Be sure to fully disclose all background technical sources for the research leading to the disclosure’s innovation. This information is very important for determining innovation ownership and royalties.
3. While we can accept electronic copies of the disclosure form, we must have a hard copy of the form mailed or hand-delivered to our office within seven business days.
4. Some disclosures will be assigned to internal inventors that have existing or incomplete information, missing signatures, or unspecified division of inventor royalty share.
5. If you have any questions pertaining to the completion of your disclosure form, please do not hesitate to call the Office of Innovation Commercialization at (336) 256-2047.
6. Please submit your completed disclosure to:

   The Office of Innovation Commercialization
   2702 Beverly and Irene Moore Humanities and Research Administration Building
   Greensboro, NC 27402
   Office: (336) 256-2047
   Fax: (336) 256-2167

7. After reviewing your innovation’s disclosure, a staff member from our office will contact you and all co-innovators for a meeting to discuss the contents of your disclosure.

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**DOWNLOAD THE DISCLOSURE FORM HERE:**

[www.uncg.edu/innovate/forms.html](http://www.uncg.edu/innovate/forms.html)
OWNERSHIP
OF INTELLECTUAL PROPERTY

What is “intellectual property”?
The World Intellectual Property Organization refers to intellectual property as creations of the mind: inventions, literary or artistic works, symbols, names, images, and designs used in commerce. Also been defined as a work or invention that is the result of creativity, such as a manuscript or design, to which one has rights and for which one may apply for a patent, copyright, trademark, etc.

Who owns what I create?
As defined by UNC policy, all inventions of UNCG employees and students that are conceived or reduced to practice as part of or as a result of UNCG research or other activities within the scope of the inventor's employment are considered property of the university. Matriculation at UNCG or activities involving the use of UNCG time, facilities, staff, materials or information unavailable to the public domain, or funds administered by the university are property of UNCG as well. The University’s copyright policy describes the applicable rules for copyrightable works (www.uncg.edu/innovate/policies.html). In some cases, the terms of a Sponsored Research Agreement or Material Transfer Agreement may impact ownership. When in doubt, it is best to call the OIC for advice. It is the inventor’s responsibility to disclose innovations to OIC which may be UNCG property. UNCG employees and students whose inventions are made on their own time and without UNCG facilities, materials, or resources and whose inventions are, therefore, their exclusive property, may submit the invention to UNCG for possible patenting and/or commercial exploitation and management under terms to be agreed upon between the inventor and UNCG.

Who owns rights to discoveries made while I am consulting?
The ownership of inventions made while consulting for an outside company depends on the terms of your consulting contract. It is important to clearly define the scope of work within consulting contract to minimize any issues with ownership of inventions created from University research. If you have questions, OIC can provide assistance in evaluating IP terms to ensure the protection of yours and the University’s rights.

Should I list visiting scientists or scientists at other institutions on my Invention Disclosure?
All persons that may have contributed to the ideas leading to a discovery should be mentioned in your disclosure, even if they are not UNCG employees. OIC, along with legal counsel, will determine the rights of such persons and institutions. It is prudent to discuss with OIC all working relationships (preferably before they begin) to understand the implications for any jointly developed inventions.

Can a student contribute to an invention?
Yes, students will first discuss the invention with their advisor, who will assist them in further discussion within UNCG. Students who make an invention at any time during the period of their enrollment in UNCG should formally acknowledge such inventions in an invention disclosure form. If a student creates an invention through collaboration with parties outside of UNCG, that student should discuss the innovation with OIC in order to determine if UNCG has any ownership rights and if the OIC can provide assistance in moving the innovation forward.

What if I created the invention with someone from another institution or company?
If you created the invention under a sponsored research or consulting agreement with a company, the OIC licensing specialist will need to review the contract to determine ownership and other rights associated with the contract and to determine the appropriate next steps. Should the technology be jointly owned with a company, the licensing specialist will usually enter into an “inter-institutional” agreement that provides for one of the institutions to take the lead in protecting and licensing the invention, sharing of expenses associated with the patenting process, and allocating any licensing revenues. If the technology is jointly owned with another company, the licensing specialist will work with the company to determine the appropriate patenting and licensing strategy.
How does UNCG assess Innovation Disclosures?
Licensing specialists assess each disclosure’s commercial potential through performing market analysis, defining its patentability and determining OIC’S ability to licence the innovation. This assessment may also include consideration of whether the intellectual property can be the basis for a new business start-up.

What is the appropriate commercialization strategy for the innovation?
OIC will work with you to develop the appropriate commercialization strategy for the invention. Some technologies lend themselves to non-exclusive licensing (licensing to multiple third parties), while others will only reach the commercial marketplace, and therefore the public, if they are licensed on an exclusive basis. We will try to accommodate inventor’s commercialization wishes. The final decision will be determined by our assessment of which strategy will produce the most benefits for the general public consistent with governmental or institutional and other obligations.

How do we decide whether to commercialize with a traditional or an “open source” license for software?
Generally, OIC supports University software developers who choose to essentially give their programs away through open source mechanisms, provided that the University retains the right to distribute the program freely, that open sourcing is consistent with obligations to sponsors, and that each developer’s unit supports the decision. Developers should seek authorization from an appropriate department chair or dean.

Is an invention ever assigned back to an Inventor?
If UNCG decides not to pursue commercialization of any invention disclosed by an inventor, the inventor may petition the UNCG Patent and Commercialization Committee to release the rights to the inventor. If there are no obligations to a third party, including but not limited to sponsors or government agencies, UNCG, may release the invention to the inventor under UNCG’s Patent and Invention policy (http://www.uncg.edu/innovate/documents/uncgFPP.pdf).
What is a patent?
In the U.S., a patent gives the holder the right to exclude others from making, using, selling, offering to sell, and importing the patented invention. A patent does not necessarily provide the holder any affirmative right to practice a technology since it may fall under a broader patent owned by others. Instead, it provides the right to exclude others from practicing the invention. Most countries of the world have patent systems, although the patent terms and types of patents vary. There are 3 major types of patents:

- Utility Patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or compositions of matters, or any new and useful improvement thereof
- Design patents may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture
- Plant patents may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant. Patent claims are the legal definition of an inventor’s protectable invention

What type of subject matter can be patented?
Patentable subject matter includes processes, machines, compositions of matter, articles, some computer programs, and methods (including methods of making compositions, methods of making articles, and even methods of performing business).

What is the United States Patent and Trademark Office (USPTO)?
The USPTO is the federal agency, organized under the Department of Commerce, that administers patents on behalf of the government. The USPTO employs patent examiners skilled in all technical fields in order to appraise patent applications. The USPTO also issues federal trademark registrations.

What is the definition of an inventor on a patent and who determines this?
Under U.S. law, inventorship has a strict legal meaning—it is not necessarily the same as authorship. The law specifies that only those who have made independent conceptual contributions to an invention are “inventors”. In order to determine inventorship, one must focus on the claims. The test is whether a person has made an original, conceptual contribution to any element of any claim. Only those who meet this test qualify as inventors. Thus, inventorship of a patent application may change as the patent claims are changed during prosecution of the application. Inventorship is a legal issue and may require an intricate legal determination by a patent attorney. A patent application incorrectly specifying inventorship is defective; such error must be corrected since it gives a basis for invalidating the patent. Concepcion of the invention under patent law has been defined as the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice.” An invention is complete and operative “if the inventor is able to make a disclosure which would enable a person of ordinary skill in the art to construct or use the invention without extensive research or experimentation.”

Who is responsible for patenting?
OIC contracts with outside patent counsel for IP protection, thus assuring access to patent specialists in diverse technology areas. Inventors will also be required to work with outside patent counsel in describing inventions and assisting counsel in drafting patent applications.

What is the patenting process?
The process of obtaining a patent is called patent prosecution. It consists of preparing and filing the patent application, then filing responses and amendments to the objections of the patent examiner. Patent applications are generally drafted by a patent attorney or a patent agent (a non-attorney with a science education licensed to practice by the PTO). The patent attorney generally will ask you to review an application before it is filed and will also ask you questions about inventorship of the application claims. At the time an application is filed, the inventor(s) will be asked to sign an Inventor’s Declaration and an Assignment, which evidences the inventor’s duty to assign the patent to the University. In two years or longer, depending on the technology, the patent attorney will receive written notice from the PTO as to whether the application and its claims have been accepted in the form as filed. More often than not, the PTO rejects the application because either certain formalities need to be cleared up, or the claims are not patentable in the light of “prior art” (anything that workers in the field have made or publicly disclosed in the past). The letter sent by the PTO is referred to as an Office Action or Official Action. If the application is rejected, the patent attorney must file a written response, usually within three to six months. Generally the attorney may amend the claims and/or point out why the PTO’s position is incorrect. This procedure is referred to as patent prosecution. Often it will take two PTO Official Actions and two responses by the patent attorney—and sometimes more—before the application is resolved. The resolution can take the form of a PTO notice that the application is allowable; in other words, the PTO agrees to issue a patent. During this process, input from the inventor(s) is often critical to confirm the patent attorney’s understanding of the technical aspects of the invention and/or the prior art cited against the application. A long prosecution process adds substantial costs in the form of filing and attorney fees.
Is there such a thing as a provisional patent?
No. However, there is a provisional patent application, which is described on this page.

Where is the difference between a provisional patent application and a regular (or “utility”) patent application?
In certain circumstances, U.S. provisional patent applications can provide a tool for preserving patent rights while temporarily reducing costs. This occurs because the application is not examined during the year in which it is pending and claims are not required. A regular U.S. application and related foreign applications must be filed within one year of the provisional form in order to receive its early filing date. However, an applicant only receives the benefit of the earlier filing date for material that is adequately described and enabled in the provisional application. As a result, the patent attorney often needs your assistance when an application is filed as a “provisional.”

What’s different about foreign patent protection?
Foreign patent protection is subject to the laws of each individual country, although in a general sense the process works much the same as it does in the United States. In foreign countries, however, an inventor will lose any patent rights if he or she publicly discloses the invention prior to filing the patent application. In contrast, the United States has a one-year grace period.

Is there such a thing as an international patent?
No. A patent must be obtained from the national patent offices of each country in which the applicant wishes to seek patent protection. An international agreement known as the Patent Cooperation Treaty (PCT) provides a streamlined filing procedure for most industrialized nations. For U.S. applicants, a PCT application is generally filed one year after the corresponding U.S. application (either provisional or regular) has been submitted. The PCT application must later be filed in the national patent office(s), generally within 30 months of the earliest claimed filing date.

What is the timeline of the patenting process and resulting protection?
Currently, the average U.S. utility patent application is pending for about two years, though inventors in the biotech and computer fields should plan on a longer waiting period. Once a patent is issued, it is enforceable for 20 years from the initial filing of the application that resulted in the patent, assuming that PTO-mandated maintenance fees are paid.

Why does UNCG protect only some intellectual property through patenting?
Financial constraints limit the number of innovations for which a patent can be pursued. Each innovation is carefully assessed for patentability and marketability by the OIC. OIC will notify the inventor(s) in no more than one hundred eighty (180) days from the date of receipt of the complete Innovation Disclosure form as to whether UNCG intends to pursue commercialization of the innovation. Should UNCG decide not to pursue commercialization of the invention, the inventor(s) may petition UNCG to release the invention.

Who decides what gets protected?
OIC and the inventor(s) consider relevant factors in making recommendations about filing patent applications. Based on a recommendation from the OIC staff and external patent counsel, the OIC Director ultimately makes the final decision as to whether to file a patent application or seek another form of protection.

What does it cost to file for and obtain a patent?
Filing a regular U.S. patent application may cost between $7,000 and $13,000. The cost of the typical U.S. patent prosecution for the university, conducted by outside legal counsel, is $15,000 or more. Filing and obtaining issued patents in other countries may cost $20,000 or more per country. Also, once a patent is issued in the U.S. or in foreign countries, certain government maintenance fees are required to keep the patent alive.

Will the University initiate or continue patenting activity without an identified licensee?
Often the University accepts the risk of filing a patent application before a licensee has been identified. After University rights have been licensed to a licensee, the licensee generally pays the patenting expenses. At times we must decline further patent prosecution after a reasonable period (often a year or two) of attempting to identify a licensee (or if it is determined that we cannot obtain reasonable patent coverage). In those cases, if no arrangement for commercialization development within a reasonable period from the date of issuance of the patent, the inventor(s) may request in writing a release of UNCG’s patent rights.
What is a copyright?
Copyright is a form of protection given to an author, artist, composer or programmer to exclude others from publishing or copyrighting literary, dramatic, musical artistic or software works. This includes:

- Literary works: novels, manuals, computer programs, lyrics, articles, certain databases
- Dramatic works: dance or mime
- Artistic works: paintings, engravings, photographs, sculptures, collages, architecture, technical drawings, diagrams, maps & logos
- Sound recordings: tapes or compact discs, recordings of other copyright works, literary or musical
- Films, broadcasts and cable programs

This protection is available to both published and unpublished works, regardless of the medium in which they exist, including the internet. You should also note that the copyright does not protect ideas, it protects the way the idea is expressed in a piece of work. The Copyright Act generally gives the owner of the copyright the exclusive right to conduct and authorize various acts, including reproduction, public performance and making derivative works. Copyright protection is automatically secured when a work is fixed into a tangible medium such as a book, software code, video, etc.

What is a derivative work?
A “derivative work” is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications, which, as a whole, represent an original work of authorship, is a “derivative work.” The owner of a copyright generally has the exclusive right to create derivative works.

How do I represent a proper University copyright notice?
Although copyrightable works do not require a copyright notice, we recommend that you use one. For works owned by the University, use the following template: © [Year of first publication] The University of North Carolina at Greensboro. (e.g., © 2007 The University of North Carolina at Greensboro).

Who owns and registers for copyright protection?
Ownership of copyrightable work depends on the sponsor and nature of the work, and is outlined in the university’s Copyright Ownership and Use Policy (http://policy.uncg.edu/copyright/) for details. In some instances the university registers copyrights, but generally not until a commercial product is ready for manufacture.

For more information:
www.uncg.edu/innovate/policies.html
What is a trademark or service mark and how is it useful?
Trademarks and servicemarks consist of brand names, trade dress consisting of the graphics, color or shape of packaging, certification marks identifying goods or services meeting specified qualifications, and collective marks identifying goods and services of an organization. A trademark includes any symbol, such as a word, number, picture, or design, used by manufacturers or merchants to identify their own goods and distinguish them from goods made or sold by others.

What is trademark registration?
Trademark registration is a procedure in which the United States Patent and Trademark Office provides a determination of rights based upon legitimate use of the mark. However, it is not necessary to register a trademark or service mark to prevent others from infringing upon the trademark. Trademarks generally become protected as soon as they are adopted by an organization and used in commerce, even before registration. With a federal trademark registration, the registrant is presumed to be entitled to use the trademark throughout the United States for the goods or services for which the trademark is registered.

What is the difference between the ™ and ® symbols?
The TM symbols indicates that the trademark is not registered, whereas registered trademarks and servicemarks are designated with the circle-R symbol. Registration of a mark is not mandatory, and rights will be protected without registration if you have actually used the mark. But it may be advisable to establish your rights by applying to register the mark in the U.S. Patent and Trademark Office even before use. You can base an application on one or more of the following:

- Actual use of the mark in commerce
- A bona fide intention to use the mark in federally regulated commerce (but the mark must be used in the ordinary course of trade before the registration will be issued).
- A non-U.S. owner’s country of origin application filed during the pervious 6 months, or its country of origin registration
- A non-U.S. owner’s extension to the U.S. of its international registration issued by the World Intellectual Property Organization in Geneva, based on a country of origin application or registration
CONSIDERATIONS FOR A
START-UP COMPANY

What is a start-up company and why choose to create one?
Under some circumstances, it may be preferable to take a technology to the marketplace through a start-up company. Forming a start-up company is an alternative to licensing the IP to an established business. A few key factors when considering a start-up company are:

- Development risk (often companies in established industries are unwilling to take the risk)
- Potential for multiple products or services from the same technology (few companies survive on one product alone)
- Sufficiently large competitive advantage and target market
- Potential revenues sufficient to sustain and grow a company

OIC uses this information, working with inventors and others, to identify the most appropriate licensing partner(s), whether established businesses or new startups.

Who decides whether to form a start-up?
The choice to establish a new company for commercializing IP is a joint decision made by OIC and the inventors. If a new business start-up is chosen as the preferred commercialization path, the OIC will connect the inventor to organizations supporting entrepreneurs in planning and executing the process. Typically, the inventor will create a Business Plan. The plan must include a well-balanced management team, identification of the target market, a plan and schedule for product development, a marketing plan, financial documents that cover company operations until profitability is expected, and commitments for the required financing.

What assistance and resources are available to the inventor?
The OIC help the entrepreneur to locate resources to help fill the gap between the technology and the formation of a start-up. The Small Business and Technology Development Center and the North Carolina Entrepreneurship Center, both with offices at UNCG, are valuable resources, and together with the OIC they may help locate prospective management talent, developing a funding strategy, make introductions to probable investors, review business plans, and engage experts to work on key gating issues.

What role does an inventor usually play in a company?
University policy allows faculty to be shareholders, advisors/consultants or directors in such a company, but they may not be an officer of the corporation or have direct responsibility for operation of the company while maintaining a full-time faculty position. In many cases, the faculty role is suggested by the start-up investors and management team who identify the best role based on the inventor’s expertise and interests. Faculty involvement of any kind in a start-up is also reviewed by a UNCG Conflict of Interest Committee. Student inventors and post-docs may choose to join the start-up upon graduation but rarely have the experience or business skills to serve as the company’s sole management.
How much of my time and effort will it take?
Starting a company requires a considerable amount of time and effort. Until the start-up team is identified and engaged, the faculty member will need to champion the formation effort. After the team is in place, effort is required for investor discussions, formal responsibilities in or with the company, and University processes such as conflict of interest reviews.

Can the University accept equity in the company?
The University may accept equity in a company as partial consideration for licensing a UNCG invention in appropriate circumstances on recommendation of OIC and with approval of the Provost. Equity may be substituted for other cash considerations that are often difficult for start-ups.

Will the University pay for incorporating a start-up company?
No. As a separate entity, the start-up must pay for its own legal matters, including all business incorporation matters and licensing expenses.

What legal assistance is needed in creating a start-up?
In addition to corporate counsel, the start-up may have its own intellectual property counsel to assist with corporate patent strategy, especially if the company will be involved in a patent-rich area. The start-up’s counsel must be separate from UNCG’s counsel, though it is advisable and recommended that the corporate IP Counsel and the UNCG patent counsel coordinate activities. Also, it is wise for inventors to have agreements regarding their roles with the start-up reviewed by their own counsel to ensure that all personal ramifications—including taxation and liabilities—are clearly understood. A license agreement will be negotiated with the start-up company that will be very similar to agreements with established companies; however, the licensing fee will usually be in the form of stock in the company in order to conserve the cash needed for company operations.

On-Campus Assistance for Startups

- North Carolina Entrepreneurship Center
  Our mission is to help entrepreneurs start and grow their businesses, and to serve as a catalyst for the creation of sustainable and globally competitive enterprises in the Piedmont Triad, North Carolina, and beyond. We will accomplish this by promoting entrepreneurship across the campus and in the community through public service and community engagement, education, and research.
  [HTTP://ENTREPRENEUR.UNCG.EDU/]

- Small Business & Technology Development Center
  The SBTDC has been helping North Carolina businesses grow and create new jobs since 1984. SBTDC specialists provide management counseling and educational services to small and mid-sized businesses throughout North Carolina. Most SBTDC services are free of charge, and all SBTDC services are confidential. Services include: Business Counseling and Management Education.
  [WWW.UNCG.EDU/RSH/SBTDCC.HTM]

Off-Campus Assistance for Startups

Business Link North Carolina
www.blnc.gov

Council for Entrepreneurial Development
www.cednc.org
**How does UNCG OIC market my inventions?**
The OIC uses many sources and strategies to identify potential licensees and market inventions. Sometimes existing relationships of the inventors, the OIC staff, and other researchers are useful in marketing an invention. We also examine other complementary technologies and agreements to assist our efforts. We use our website to post inventions, leverage conferences and industry events, and make direct contacts. Faculty publications and presentations are often excellent marketing tools as well. Such non-confidential information about the innovation can be shared with potential partners. Confidential information is then provided to interested parties after signing of a confidentiality agreement. This information may include patent applications, research proposals, and other relevant research data. If a potential commercialization partner demonstrates interest in an innovation, a license agreement is negotiated. Sometimes the partner wishes to support further research at the University, in which case a sponsored research agreement is negotiated.

**How are most licensees found?**
Studies have shown that 70% of licensees were already known to the inventors. Thus, research and consulting relationships are often a valuable source for licensees. Licensees are also identified through existing relationships of the OIC staff. Our licensees often license more than one technology from the University. We attempt to broaden these relationships through contacts obtained from website postings, market research, industry events and the cultivation of existing licensing relationships.

**How long does it take to find a potential licensee?**
It can take months and sometimes years to locate a potential licensee, depending on the attractiveness of the invention, its stage of development, competing technologies, and the size and intensity of the market. Most university inventions tend to be in the early stage in the development cycle and thus require substantial commercialization investment, making it difficult to attract a licensee.

**How can I assist in marketing my invention?**
Your active involvement can dramatically improve the chances of matching an invention to an outside company. Your research and consulting relationships are often helpful in both identifying potential licensees and technology champions within companies. Once interested companies are identified, the inventor is the best person to describe the details of the invention and its technical advantages. The most successful tech transfer results are obtained when the inventor and the licensing professional work together as a team to market and sell the technology.

**Can there be more than one licensee?**
Yes, you may either license your patent exclusively (to one party) or non-exclusively (to more than one party). Non-exclusive rights allow many entities—including the inventor—to practice the invention simultaneously. Other issues to be considered in a licensing agreement include territory covered, how long the license will be in effect, or how the invention will be used (field-of-use license).
What is a license?
A license is a permission that the owner or controller of intellectual property grants to another party, usually under a license agreement.

What is a license agreement?
License agreements describe the rights and responsibilities related to the use and exploitation of intellectual property developed at the University. University license agreements usually stipulate that the licensee should diligently seek to bring the intellectual property into commercial use for the public good and provide a reasonable return to the University.

How is a company chosen to be a licensee?
A licensee is chosen based on its ability to commercialize the innovation for the benefit of the general public. Sometimes an established company with experience in similar technologies and markets is the best choice. In other cases, the focus and intensity of a start-up company is a better option. It is rare for the University to have multiple potential licensees bidding on an invention.

What can I expect to gain if my IP is licensed?
Since the licensing of innovations provides a financial benefit, UNCG will share the revenue it receives from patents and commercialization opportunities with the inventor(s). [For more information, visit www.uncg.edu/innovate or see page 25.] OIC will be responsible for receiving all royalty reports and payments resulting from the license agreement and will ensure that all revenue payments received by licensees correspond to the amounts specified in the license agreements. Most inventors enjoy the satisfaction of knowing their inventions are being deployed for the benefit of the general public. New and enhanced relationships with businesses are another outcome that can augment one’s teaching, research and consulting. In some cases, additional sponsored research may result from the licensee.

What is the relationship between an inventor and a licensee, and how much of my time will it require?
Many licensees require the active assistance of the inventor to facilitate their commercialization efforts, at least at the early stages of development. This can range from infrequent, informal contacts to a more formal consulting relationship. Working with a new business start-up can require substantially more time, depending on your role in or with the company and your continuing role within the University. Your participation with a start-up is governed by University conflict of interest policies and the approval of your supervisor.

What other types of agreements and considerations apply to tech transfer?
- **Confidential Disclosure Agreements** should be obtained before discussing a technology with anyone outside the University, such as a company or colleague at another university. OIC also has a form for thesis/dissertation defense situations. Companies may ask researchers to sign CDAs prior to discussing any possible research collaborations. Inventors should **NOT** sign a CDA, it should be reviewed by OIC and signed by the Director of OIC.
- **Material Transfer Agreements (MTAs)** are used when a researcher sends out or receives materials, such as biological material or compounds. These agreements enable researchers to share materials while safeguarding proprietary rights to the materials. Intellectual property rights can be endangered if materials are used without a proper MTA.
- **Sponsored Research Agreements (SRAs)** come with a number of potential problems which should be avoided because they can cause roadblocks to future licensing and funding efforts including: IP ownership issues of any kind, non-exclusive royalty free licenses to corporate sponsors, granting rights to background innovations, and granting rights to future innovations. While the OSP is the main contact for SRAs, OIC will negotiate certain portions of SRAs linked to licensed innovations. Licensees often wish to sponsor additional or follow-on research projects to expedite the product development process.

FOR MORE INFORMATION ON OFFICE OF SPONSORED PROGRAMS VISIT: WWW.UNC.G.EDU/RSS
**What activities occur during commercialization?**
The most common commercialization approach is to draft a licensing agreement with an investor/company that results in the use of the intellectual property by the company in return for consideration to the University. Licensing fees and royalties are then shared with the inventor according to University policy. Through licensing the University retains ownership of a technology and the companies obtain the right to use the technology to make and sell products or services. In some cases, an industry partner may sponsor further development of the innovation, in which case the inventor remains heavily engaged in the project.

**What is my role during commercialization?**
It is most helpful for the inventor to contribute substantially and directly to identification of potential markets for the invention and in locating potential licensees. Your role can vary depending on your interest and involvement, in the interest of the licensee in utilizing your services for various assignments, and any contractual obligations related to the license or any personal agreements.

**What will happen to my invention if the start-up company or licensee is unsuccessful in commercializing the technology? Can the invention be licensed to another entity?**
Licenses typically include performance milestones that, if unmet, can result in termination of the license. This termination allows for subsequent licensing to another business.

**What revenues are generated for the University if commercialization is successful? If unsuccessful?**
Most licenses have licensing fees that can be very modest (for start-ups or situations in which the value of the license is deemed to warrant a modest license fee) or can reach hundreds of thousands of dollars. Royalties on the eventual sales of the licensed products can generate revenues, although this can take years to occur. Equity, if included in a license, can yield returns, but only if a successful equity liquidation event (public equity offering or a sale of the company) occurs. Most licenses do not yield substantial revenues. A recent study of licenses at U.S. universities demonstrated that only 1% of all licenses yield over $1 million. However, the rewards of an invention reaching the market are often more significant than the financial considerations alone.
**Navigating Conflict of Interest**

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**How does the University define a conflict of interest?**
The term “conflicts of interest” refers to situations in which financial or other personal considerations may compromise, or have the appearance of compromising, an employee's professional objectivity in meeting University duties or responsibilities, including research activities. The bias that such conflicts may impart can affect many University duties, including decisions about personnel, the purchase of equipment and other supplies, the collection, analysis and interpretation of data, the sharing of research results, the choice of research protocols, and the use of statistical methods. An employee may have a conflict of interest when the employee, or any member of the employee's immediate family or household, has a personal interest in an activity that may affect decision making with respect to University teaching, research or administration. It is the policy of the University that employees must avoid conflicts of interest that have the potential to affect adversely the University's interest, to compromise objectivity in carrying out University responsibilities, or otherwise to compromise the performance of University responsibilities. Accordingly, personal activities and financial interests must be arranged so as to avoid such conflicts. Failure to do so may constitute misconduct or neglect of duty.

**When should I seek guidance on conflict of interest?**
As UNCG and its faculty establish more partnerships and collaborations with for profit business entities and other organizations, the potential for financial conflicts of interest and conflicts of commitment that involve both the individual faculty and the university are created. Contact your OIC licensing associate with any concerns regarding conflict of interest. Keeping your licensing associate informed throughout the commercialization process will ensure all policies are adhered to.

**What kinds of issues concern conflict of interest reviewers?**
Some potential conflicts are obvious, such as the case of a faculty member's lab receiving research funding from a company in which the individual owns equity or receives significant consulting fees or gifts. Other potential conflicts are not so obvious, such as when the university is negotiating a license or sponsored research agreement with a company who has promised to provide philanthropic dollars to the university.

**What are examples of a conflict of commitment?**
A conflict of commitment may exist if duties, assignments or responsibilities associated with a technology license or outside business arrangement have a negative impact on your ability to meet commitments associated with your University employment or exceed the amount of time available to you for these activities. The best approach is to fully disclose your situation to your supervisor and discuss the implications for your job responsibilities.

**How does the University manage conflict associated with research and tech transfer transactions?**
It is the responsibility of the researcher or faculty member to disclose and document any outside arrangements that constitute disclosable situations or interests as described in University conflict of interest policies. Reviews of potential conflicts can transpire in one of two ways: “Expedited” which involves a review by a subcommittee and “Full Review” which involves a convened meeting of the entire COI committee. Both processes make recommendations to the COI chairs who will present the recommendations to the Vice Provost.
How are license revenues distributed?
OIC is responsible for receiving all royalty reports and payments resulting from license agreements and will ensure that all payments received correspond with amounts specified in agreements. OIC will distribute the inventor’s share of the royalties and fees as specified in UNCG’s Patent and Invention Policy. OIC will also be responsible for auditing the performance of the licensee to ensure compliance with license conditions. Revenues received from a patent or invention will be applied first to reimburse the University for any incremental expenses incurred throughout obtaining and maintaining patents and/or in marketing, licensing and defending patents or licensable inventions. After provision for such expenses, the inventor’s share of such revenues received by the University will be distributed as displayed in the table below.

What if I receive equity (stock) from a company?
Under UNCG Policy, inventors who receive equity from a licensee are permitted to share University revenues from agreements with licensees in which they had an equity interest.

What are the tax implications of any revenues I receive from the University?
License revenues are typically taxed as Form 1099 income. You should consult a tax advisor for specific advice.

How are inventor revenues distributed if there are multiple inventors and/or multiple inventions in a license?
In the case of an invention with more than one inventor, each inventor’s share of the revenues shall be agreed to, in advance and in writing, by all such inventors on the innovation disclosure form. Should the inventors fail to agree to the amount of each inventor’s share of the revenues, UNCG Patent and Commercialization Committee, in its sole discretion, shall determine the share of each inventor.

How is equity from a license distributed?
When University equity is liquidated by the University Treasurer’s office, the resulting funds are distributed in accordance with the Patent and Invention University Policy as per the revenue distribution table below. Shares of publicly traded businesses may be distributed to inventors before liquidation.

What happens to my share of licensing revenue if I redirect it, or waive rights to it?
Revenues waived by inventors are distributed to the associated school/college and department/unit. To avoid potential tax liability, revenues waived by you to your department/unit must not be under your control.

<table>
<thead>
<tr>
<th>Net Revenue</th>
<th>Inventor(s)</th>
<th>Department</th>
<th>School/College</th>
<th>Provost’s Office</th>
</tr>
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<tbody>
<tr>
<td>First $500,000</td>
<td>50%</td>
<td>15%</td>
<td>10%</td>
<td>25%</td>
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<tr>
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<td>50%</td>
<td>10%</td>
<td>5%</td>
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<tr>
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This activity generates annual revenues which are shared among UNCG schools and colleges, departments and units, inventors and partnering institutions. Much of these revenues are reinvested in additional research and education, thus fostering the creation of the next generation of research, researchers and entrepreneurs. In addition, the resultant relationships created and deepened with these activities support our University missions. They result in additional research projects, broader educational opportunities and collaborative investments, and an enhanced ability to create, retain and share valuable resources that contribute to our quality of life.