**Responsible Conduct of Research**

**Training Module for Faculty and Students**

**Note:** All graduate students will be required to complete training and pass a test on the sections in Parts 1-6 that are designated for their graduate programs.

All graduate faculty members and other faculty engaged in lab research or research with human subjects, with or without sponsored funds, will be required to complete training and pass a test on all parts of the training module.

**Introduction**

Fort Valley State University (FVSU) is a fully accredited, comprehensive, **baccalaureate and graduate institution** committed to providing strong academic programs, online courses and extracurricular activities to students. The University provides instruction, research, and public and extension services, consistent with its land-grant and public functions, for all segments of the population to achieve their personal, educational, and professional goals. All the academic programs can be seen at the following link:

<https://app.usg.edu/portal/pls/portal/usg_dma.dma_advanced_search.Show_view_results_screen?fice=001566>

To maintain confidence and trust in these activities, researchers must aggressively protect the empirical objectivity of research, the unbiased reporting of results, and the open sharing of that information. Respect for intellectual property is a non-negotiable requirement.

The responsibilities of Principal Investigators (PIs) include the direction of research and scholarly activities and the education and training of students. These crucial roles must be carried out in compliance with institutional policy and according to all federal and state regulations, guidelines, and sponsorship requirements. Students also must receive training in Responsible Conduct of Research, and all graduate students will be required to complete training and pass a test on the sections in Parts 1-6 that are designated for their graduate programs.

Graduate faculty will be required to complete training and pass a test on all parts of the training module. The topics covered by this training module are only an introduction. All PIs and other researchers are encouraged to seek out additional information and material when confronted with situations requiring more in depth analysis. Students engaged in certain types of research will be asked to follow the links to more in-depth treatment of areas that pertain to them. Issues that can impinge on public trust and confidence in research are brought together under the heading of "research integrity," and are discussed below.

**Part 1: Health, Safety and the Environment**

The investigator is in a critical position to understand the operation and equipment involved, the material and methods used, and therefore, the potential risks associated with the work being done on a project. The investigator’s attitude toward health and safety contributes significantly to both the institution’s commitment to safety and to the education of students regarding the conduct of research.

The proper management of chemicals, biological materials, animals, and radioactive materials that can pose hazards to health and the environment is not only good lab management; it is also a regulatory and institutional requirement. Such management creates particular requirements for investigators in laboratories and is overseen by a variety of intern and external offices and agencies.

Offices and Committees:

The Office of Environmental Health and Safety provides a chemical waste management system, a safety policies and procedures manual, extensive training programs, fact sheets, laboratory safety manual templates, safety standard operating procedures, a biosafety manual template and blood born pathogen exposure control plan templates, as well as other resources and tools.

Biological agents used in research will be overseen by the Institutional Biosafety Committee (IBC) as soon as it is established. The IBC will be a Presidential Committee reporting through the Vice President for Academic Affairs. Work with recombinant DNA and infectious or biohazardous agents will require special review and approval by the IBC prior to the initiation of research.

Use of animals in research is overseen by the Agricultural and Laboratory Animals Care and Use Committee.Work with animals requires special review and approval by this committee. Assistance with these requirements is usually available through the Veterinary Technology and Animal Science programs.

**Radiation Safety**

A special category of research is that involving the use of sources of ionizing radiation. Currently, Fort Valley State University does not engage in such research. A Radiation Safety Office, at institutions that do engage in research involving radiation, would have sole responsibility for the radiation safety program. Institutions must apply and maintain all aspects of the licenses issued by federal and/or state authorities. Radioactive materials and radiation producing equipment or machines used in research are overseen and approved by the Radiation Safety Committee (RSC) and Radiation Safety Office (RSO) or EH&S.

**Shipping and Receiving (Department of Transportation Regulations for Hazardous Materials)**

Many products in daily use are dangerous, and some can have catastrophic effects on people, property and the environment. In 1974 congress passed The Hazardous Materials Transportation Act. Over time the regulations have become more stringent and inclusive to the point that it has become impossible for the untrained person to handle or ship HAZMAT safely and within the law.

**Protection of Research Subjects (IRBs and IACUCs)**

Research involving either human subjects or laboratory animals is also regulated by Government agencies and by institution policy. Many institutions extend regulatory requirements in this regard to ANY research activity, regardless of the source of funding for the activity, which involves the use of human subjects or laboratory animals. As is also the case when research will involve either biohazards or radiation, protocol approval by the Human Subjects Committee or the Agricultural and Laboratory Animals Care and Use Committee is required before research can begin.

**Human Subjects in Research (IRB)**

The Institutional Review Board (IRB) at FVSU is called the Human Subjects Committee. It is charged with the review of protocols involving research involving human subjects, including:

1. data through intervention or interaction with the individual; or

2. identifiable private information, e.g., school transcripts or medical records.

Before any project involving human subjects can begin, many institutions require that all researchers involved complete a course on such research (based upon the Federal Regulations 45 CFR Part 46). This is a federal requirement when NIH funds are involved. Researchers must follow the requirement that records related to human subjects must be kept confidential.

**Laboratory Animals (IACUC)**

The Institutional Animal Care and Use Committee (IACUC) at FVSU is called the Agricultural and Laboratory Animals Care and Use Committee. It is charged with reviewing all research protocols involving research animals. Typically, no research involving the use of vertebrate animals can proceed without the approval of this Presidential Committee.
In addition to concern for the humane care and use of the animals, research with laboratory animals can also raise environmental health and safety issues. Many Animal Care and Use Programs are accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC).

**Part 2: Conflict of Interest**

Conflicts of interest can be defined as situations in which a divergence between personal and professional interests might be perceived, such as an individual's professional actions being influenced by considerations of personal gain. Conflicts of interest can erode scientific objectivity.

In the modern research institution, it is impossible to avoid conflicts of interest. The goal of policies in this regard is not, therefore, to eliminate all conflicts but rather to manage them. The key to the conflict of interest process is communication and disclosure.

At most institutions, all faculty members are required to submit to their Chair/Director, Dean or Dean Equivalent, and finally to the vice President an annual disclosure and certification of compliance with the policies regarding conflicts of interest and any state ethics laws. In addition, as circumstances may arise during the year, *ad hoc* disclosures may be necessary. It is often difficult to identify a potential conflict of interest. One way to sensitize yourself to possible issues is to review the policies in their entirety.

Conflicts of commitment, a related problem, are situations in which the individual's time and energy are unreasonably diverted away from away from institutional responsibilities. Conflicts of commitment are managed in part through limits on the amount of time that a faculty member may act as a consultant. Consulting and other outside activities can create real benefits for the faculty member and for the institutions involved; they can also create conflicts of commitment, and can precipitate conflicts of interest. The [scenario](http://www.nap.edu/readingroom/books/obas/contents/conflicts.html) linked here, developed by the National Academy of Sciences, allows analysis of hypothetical conflicts, and FVSU encourages researchers to view it.

In addition to institutional requirements, the National Science Foundation (NSF) and the National Institutes of Health (NIH) have their own requirements for disclosures whenever a proposal is submitted to either. Special attention is focused on conflicts of interest in biomedical research, particularly in the relationships between faculty and pharmaceutical companies in the conduct of clinical trials.

Any issues related to conflict of interest should be discussed with Chair/Director and Dean/Dean Equivalent. The Office of the Vice-President for External Affairs, the Office of Sponsored Programs, the Post Award Office, and the Office of the Director of Agricultural Research are also available to provide advice.

**Part 3: Publication, Data, Intellectual Property, Avoidance of Undue Influence**

Publication in peer-reviewed journals is at the heart of the academic research enterprise. Considerations around the sharing of information, and the ability to replicate research results, are discussed in the excerpt from "[On Being a Scientist](http://www.nap.edu/readingroom/books/obas/contents/publication.html)." Responsible research policies require protection of the scholar’s right and responsibility freely to offer periodicals and other publishers research results. Participation in scholarly publication is also a key component of the research apprenticeship of students. Donald Kennedy's 1989 paper "[On Academic Authorship](http://www.nap.edu/readingroom/books/obas/contents/allocation.html)" presents a systematic discussion of the topic.

As do most institutions, FVSU subscribes to the 1940 Statement of Principles on Academic Freedom and Tenure with 1970 Interpretive Comments of the American Association of University Professors with the 1987-1990 revisions. At Washington State University, the section on academic freedom reads as follows:

“Teachers are entitled to full freedom in research and in the publication of the results, subject to the adequate performance of their other academic duties; but research for pecuniary return should be based upon an understanding with the authorities of the institution.”

Following this basic theme, most institutions do not accept grants or contracts that confer upon an external party the power to censor, unduly delay, or exercise veto power over either the content of instruction or the conclusions and/or publication of research. Publication of research findings may temporarily be delayed in order to protect patent rights or permit the research sponsor to review the proposed test only to identify proprietary information furnished by or belonging to the sponsor. Research sponsored by interested parties is not trustworthy.

To protect both the scholar and the institution, researchers should be alert to language in proposals, award notices, or other project documents that limit openness. The Sponsored Programs Office (SPO) staff is available to assist in reviewing such documents. Any concerns about restrictions on openness or the ability to publish should be resolved, via SPO, before an award is accepted.

Recently, there has been an increased interest in patentability and licensing of intellectual property developed at institutions. This has brought new attention to issues of openness and potential for publication, as well as new potential conflicts of interest.

The idea that institutional resources should be reserved for meeting the institution’s mission underlies many intellectual property policies. Typically, the use of research facilities and resources for commercial purposes or for personal financial gain is managed through state ethics laws. Institutions receiving federal funding must report invention disclosures and promote technology transfer for the good of society.

Finally, after the research project is complete, regulations stipulate the length of time that scientific records and data must be retained. In general, data must be kept for three years following the closure of a project (this applies to both scientific and financial records). Special circumstances may require longer retention periods. Signed and possibly witnessed Laboratory notebooks are crucial project records, for example, in support of a patent application. In addition, records related to human subjects must be kept confidential – see Human Subjects section.

**Part 4: Guidelines on Authorship**

1. **Authorship**
A person claiming authorship of a scholarly publication must have met all of the following criteria:
	1. Substantial participation in conception and design of the study, or in analysis and interpretation of data;
	2. Substantial participation in the drafting of the manuscript or in the substantive editing of the manuscript;
	3. Final approval of the version of the manuscript to be published;
	4. Ability to explain and defend the study in public or scholarly settings.

(Note: these criteria follow closely those recommended by several professional associations. See especially the International Committee of Medical Journal Editors, Annals of Internal Medicine 1988; 108: 258-65.)

1. **Acknowledgment**

Contributions that do not justify authorship should be acknowledged separately in the notes to the manuscript. These may include general supervision of a research group, assistance in obtaining funding, or technical support.

1. **“Honorary Authorship”**

It is unethical to assign authorship to persons who though, associated in some way with a study, do not meet the four criteria in item 1.

1. **Graduate Student Authorship**

Faculty are fully responsible for safeguarding the rights of graduate students to publish the results of their research.

1. **Senior Author and Order of Authorship**

The senior author is generally defined as the person who leads a study and makes a major contribution to the work. All the authors, at the outset of a project, should establish senior authorship, preferably in a written memorandum of understanding. This memorandum of understanding should acknowledge the authors’ agreement to abide by their departments’ and institution’s policy on authorship. At the outset of the study the senior author should discuss the outline of work and a tentative order of authorship with the study participants. As projects proceed, agreements regarding authorship may need to be changed. The senior author is responsible to assure that the contributions of study participants are properly recognized.

**Part 5: Data Management, Data Ownership and Lab Practices**

Data management is an extremely important aspect of the overall research effort. The following material is adapted from the “[ORI Introduction to the Responsible Conduct of Research](http://www.ori.hhs.gov/publications/ori_intro_text.shtml)”, Chapter 6 and “[Making the right moves, A practical guide to scientific management for postdocs and new faculty](http://www.hhmi.org/educational-materials/lab-management/for-early-career-scientists?utm_source=Paloma&utm_medium=Newsletter&utm_campaign=Career%20News%2018)” from the Burroughs Wellcome Fund and the Howard Hughes Medical Institute.

Institutions and principal investigators have responsibilities and obligations regarding research funds and data collection. Institutions, as the recipient of research funds, own the data and have budgetary, compliance, and contractual obligations that remain even after a PI is no longer at the institution.

The methods of data collection used as well as detailed documentation of the data collection process are extremely important. Researchers must clearly communicate policy and expectations to incoming graduate students and post-docs. In addition, regular lab meetings help to ensure common understandings and expectations.

**Data Ownership:**

In general all data collected at an institution is the property of the institution. It is useful to distinguish between grants and contracts:

* 1. Data collected with grant funds remain~~s~~ under the control of the institution.
	2. Contracts typically require the researcher to deliver a product or service to the government or industry sponsor, and the product or service is then owned and controlled by the sponsor.

Data collection must be well-organized and detailed. The laboratory notebook (bound sequentially numbered pages, with signatures and dates) is often key to keeping daily records. Detailed records help:

* Establish good work practices;
* Teach the people in your lab;
* Meet contractual requirements;
* Avoid fraud;
* Defend patents.

To ensure the protection and cooperation of all involved, the following are recommended:

* Before data is collected all project personnel should clearly understand who owns the data, who has the right to publish, and what requirements or obligations are imposed on the researcher or the institution.
* When a PI leaves the institution, an agreement on the disposition of research records (and materials) should be negotiated between the researcher and the Department Chair or Dean to allow the transfer of research records.
* Whenever a graduate student or post-doc leaves the lab, a similar agreement should be negotiated between the PI and the graduate student or post-doc.
* Collaborative research agreements regarding data ownership and use should be agreed to (in writing) prior to the collection of the data. In general, each member of the team should have continued access to the data/materials (unless a prior agreement was negotiated).

**Data Storage and Protection:**

Once data has been collected, it must be stored and protected to be of future use. Data storage must be done in such a way (in terms of completeness and organization) that results and conclusions can be clearly discerned from the data and materials that have been archived. The data and materials must be protected so that research findings can be confirmed and/or reanalyzed by others. If data and materials are not properly stored and protected they could significantly reduce the value of the research (or even render the research worthless).

**Part 6: Research Misconduct and Reporting**

Research is built on a foundation of truth, which allows society to place a high level of confidence in the outcomes reported from that research. The trust between science and society will endure only if the scientific community devotes itself to ethical conduct of research. Thus, all members of that community share responsibility for promoting and maintaining the principles of academic integrity. Institutions expect the highest ethical standards in the conduct of research activities and are committed to vigorously enforcing those standards. Moreover, good faith complainants are protected from retaliation by the provisions of state law and institutional policy.

Research misconduct in research and scholarship includes:

1. Fabrication or falsification of data, plagiarism, or other practices which seriously deviate from those that are commonly accepted within the academic or scientific community for proposing, conducting, implementing, or reporting research.
2. Failure to comply with federal, state, or institutional requirements for protecting researchers, human subjects, and the public during research and for insuring the welfare of laboratory animals.
3. Use of research funds, facilities, or staff for unauthorized and/or illegal activities.

Research misconduct does not include honest error or honest differences in interpretations or judgments of data.

Institutions and many of the agencies that fund research have explicit policy requirements related to allegations, investigations and reporting of scientific misconduct. Integrity and conscience demand not only personal adherence to ethical standards, but reporting of suspected violations of those standards. Violations should be reported in confidence to the Vice President for Academic Affairs and, if grant funded, to the Vice President for External ~~Affairs (the Research Integrity Officer).~~ Reports may be made confidentially, or even anonymously. Reporting such concerns in good faith is a service to the institution and to the larger academic community, and will not jeopardize anyone's employment.

**Additional resources:**

[Office of Research Integrity (ORI)](http://ori.hhs.gov/) (The U.S. Department of Human Services)

**The following information is for use in training or refreshing the training of faculty members and staff members hired to do research. It will be of interest to students who expect to apply to do sponsored research in the future.**

**Part 7: Award Terms and Conditions**

Institutions receive funding from hundreds of different sponsors, including federal agencies, foundations and for-profit companies. Each of these has the right to establish its own general and award specific terms and conditions. The terms of an individual award take precedence over the provisions of Office of Management and Budget (OMB) Circular A-21, Cost Principles of Educational Institutions. For example, although travel is not defined as unallowable in A-21, your particular award may designate travel, or more likely foreign travel, as unallowable. In that case, you may not charge those expenses to that project. Similar types of provisions may pertain to the acquisition of equipment. Where required by the terms of the award, you MUST have the written approval of the sponsor's Grant or Contract Officer before charging specified expenses. The Sponsored Programs Office and the Post Award Office can assist with proper documentation of these approvals. It is important to note that all sponsor terms and conditions specified in an award "flow down" to any recipients of sub-awards.

Awards may also contain requirements for advance notification of certain conditions. For federal grants, OMB Circular A-110 requires prior approvals of changes in PI status (including reduction of effort by 25% or more) or significant changes in scope of work. The Sponsored Programs Office and the Post Award Office can assist with proper documentation of these approvals.

Cost-type contracts oftentimes have other requirements. Many of these requirements need sponsor approval, which, when required by the sponsor, must be in writing to the sponsor’s Grant or Contract Officer and submitted via the SPO.

Finally, award notices specify requirements for reports. PIs who fail to submit timely technical or progress reports, for example, risk losing their funding, and jeopardize other funding at the institution.

**Administrative Salaries and Other Clerical Expenses**

The September 1, 1994, revision of Circular A-21 established the principle that administrative and clerical expenses are normally indirect costs. The Circular permits them to be charged directly to federal sponsors in “major proposals” as defined:

A-21 defines this term to mean "administratively intensive," where the nature of the technical work requires administrative/clerical support significantly above the routine level. [A-21](http://www.whitehouse.gov/omb/circulars/a021/a21_2004.html) provides several examples.

The proposal, and in particular the budget justification, are critical to the allowability of these types of costs. If you are proposing clerical/administrative costs, the proposal must state that the PI considers the project to be "major" (see sample language below) and the justification must be explicit and detailed.

. . . The PI has determined that this is a major project, as defined by OMB Circular A-21, and it meets A-21 requirements for direct charging of administrative expenses. All effort and expenses charged to this project will be for services specific to the project, and not for general support of the academic activities of the faculty or Department. In addition, effort charged to this project can be specifically identified to the project.

You are encouraged to discuss this subject with your research administrator, administrative support staff, or your Sponsored Programs Office staff when preparing proposals that include such costs.

Even if administrative costs are budgeted and allowed by the sponsor, they may not be charged directly to a federal sponsor except in the case of "major projects."

The specific criteria for charging administrative costs to “major projects” are:

1. The expense is for the performance of one or more of the activities/projects defined as "major;"
2. The expense is specifically identified with and directly benefits the project;
3. The expense is specifically budgeted and approved by the sponsor;
4. The expense is supported by an explicit budget justification in the project proposal.

**Financial Management**

**Audit Realities**

This topic deals with another aspect of the regulatory environment - that concerned with the management of project funding. Just as with the conduct of research, there are externally-imposed requirements on the individual researcher and on the institution related to the management of research funds.

The objectives of good research management are twofold:

1. to make best use of available funds to achieve research outcomes;
2. to avoid problems of fraud, waste and abuse of sponsor support.

Increasingly, requirements related to the use of federal funds create serious exposure for an institution and individual researchers. One purpose of this presentation is to minimize that risk.

Audits focus today on the direct costs of research, including the thousands of individual transactions in which PIs authorize the expenditure of sponsor funds for salaries, supplies and other costs of research. Recent audits have highlighted particular areas where regulations and compliance are complex and sometimes difficult. Pay close attention to the issues, and if you have any further questions, feel free to contact your Post Award Office.

**The Cost Principles: OMB Circular A-21**

1. Anyone authorizing the expenditures of federal funds needs to be well-versed in the cost principles contained in OMB Circular A-21.
2. These principles shall be used in determining the allowable costs of work performed by institutions under sponsored agreements (any grant, contract, or other agreement between the institution and the Federal Government). The principles shall also be used in determining the costs of work performed by an institution under sub-grants, cost reimbursement subcontracts, and other awards made to us under sponsored agreements. And as a guide in the pricing of fixed price contracts and subcontracts.
3. Any costs being charged to a sponsor must be allowable, allocable, reasonable and consistent, as defined by OMB Circular A-21.
4. Allowability
The tests of allowability of costs under these principles are:
	* They must be reasonable;
	* They must be allocable to sponsored agreements under the principles and methods provided herein;
	* They must be given consistent treatment appropriate to the circumstances;
	* They must conform to any limitations or exclusions set forth in these principles or in the sponsored agreement.

E. Reasonable costs.

A cost may be considered reasonable if the nature of the goods or services acquired or applied, and the amount involved, reflect the action that a prudent person would have taken under the circumstances prevailing at the time and the actions taken are consistent with established institution policies and practices.

1. Allocable costs:

A cost is allocable to a sponsored agreement if (1) it is incurred solely to advance the work under the sponsored agreement; (2) it benefits both the sponsored agreement and other work of the institution, in proportions that can be approximated through use of reasonable methods, or (3) it is necessary to the overall operation of the institution and assignable to sponsored projects.

1. Any costs allocable to a particular sponsored agreement may not be shifted to other sponsored agreements in order to meet deficiencies caused by overruns or other fund considerations, to avoid restrictions imposed by law or by terms of the sponsored agreement, or for other reasons of convenience.
2. Any costs allocable to activities sponsored by industry, foreign governments or other sponsors may not be shifted to federally sponsored agreements.

**Efforts, Salaries and Cost Share**

Federal regulations require that specified employees’ activity be periodically reported and certified (Office of Management and Budget Circular A-21).

Cost Sharing - effort contributed towards Sponsored Agreements in which salaries are not borne by the sponsor in part or in total.

It is reasonable for agencies to know what direction their funds are going in. The question more simply put is: ‘What did you do with what we gave you’?

The commitment of effort made in proposals is the starting point for a significant amount of project cost. It also has significant implications for cost sharing. The following principles apply:

* At most institutions, salaries are allocated on the basis of distribution of total effort (FTE, or Full-Time Equivalent), including instruction, organized and sponsored research activities, departmental administration, etc.
* No one has more than 100% FTE.
* Any effort committed in a proposal, awarded by the sponsor, and expended on the project must be charged directly to the sponsored agreement account or reported by the department as cost-share as part of the effort certification process. These dollars are included in an institution’s research base and become part of the indirect cost rate (F&A) calculation.

A commitment of effort is usually made in the proposal budget, but it may also be made in the narrative or in direct communication with the sponsor (e.g. phone, e-mail). When effort is committed, awarded, and expended, corresponding salary must be directly charged or cost-shared.

In January 2001, the Office of Management and Budget issued a [clarification of Circular A-21](http://www.ostp.gov/html/OMBA21_01.pdf), confirming that voluntary uncommitted effort should not be accounted for separately and included in the organized research base for the calculation of indirect costs.

Note: It is not allowable to cost share federal funds without statutory approval to do so.

Once an expense has been used for cost share, you cannot use that same expense as cost share on another grant (i.e., no double-counting).

Proposed voluntary cost share becomes mandatory/committed cost share if accepted as part of the award agreement, so be careful not to over-commit yourself.

**Documenting Allocability**

An expense is allocable to a project if the item being charged, e.g., salaries, supplies, travel, student tuition, etc., benefits the project. Allocability is one of the cost principles defined in A-21, and expenses that are not allocable may not be directly charged. A-21 allows that PIs may allocate costs among different projects, as long as the allocation method reasonably approximates the degree to which each project benefits. Allocation methods must be documented and available for review.

Allocability is a focus of audit activity. Project expenditures must be supported by evidence of direct benefit to the project. The availability of funds to pay an expense, or its inclusion in a budget, is not evidence of the allocability of that expense to the project. For supplies and other non-salary expenses, allocability can usually be documented through purchase/payment records or other files, as well as through the certification of expenditures. A knowledgeable person in the department must review each month's project expenditures. Any errors or requests for clarification should be brought to the PI's attention and, if necessary, corrected promptly.

If an expenditure statement includes an error, the department initiates a transfer to move the charge to the right account. Department staff will do this based on information provided by the PI. This needs to take place as soon as possible after identifying the need for a correction, and be sufficient to document the benefit to the project being charged. Transfers are fertile ground for audit activity, and they will be reviewed carefully -- first by institution staff, and then often by an external auditor.

**Monitoring Project Spending**

Two common situations in which the allocability of an expense will be critically reviewed are those where expenses are incurred before the start of a project period, and those where expenses are incurred just before the end of a project period. During the project period, while the work of the project is being carried out, sponsors may also look closely at the rate of project expenditures.

When a new award is assured but the funding is delayed, it may be necessary to open an account immediately, so that personnel can be assigned, pre-award costs can be allocated, etc. This may be done as a Guarantee through the Post Award Office.

It is not appropriate to charge these costs to other sponsored accounts, even if it is intended to transfer them later. Costs should not be charged to non-sponsored accounts and then transferred later. A guarantee account, prevents having to transfer expenses onto a new account when the award arrives, thus avoiding both administrative burden and audit exposure.

During the project period, PIs can jeopardize their funding when spending either accelerates at an unanticipated rate or falls significantly behind project projections. While there may be very good programmatic reasons for accelerated or decelerated levels of spending, it is always a good idea to keep the sponsor - both technical and administrative officers - informed in these situations.

Sometimes it is necessary and appropriate to purchase equipment, supplies or incur other expenses late in the project period. In these cases, it is particularly important to document the allowability -- and particularly the allocability -- of the expense. It is also a good idea to get the written approval of the Sponsor’s Grant or Contracting Officer whenever an expenditure might appear to be questionable.

Expenses incurred after the project period has ended are unallowable, unless the award contained provisions permitting them to be charged to the award. This includes expenses incurred for the production of final project reports. If you have work left to do on a project, but have run out of time, request a no-cost extension. This request must be coordinated through the Sponsored Projects Office.

**Subcontracts**
Many large grants and contracts have subcontracts associated with them. When invoices are forwarded to your department for approval, it is imperative that the PI review these invoices for appropriateness (allowability, allocability and reasonableness). The provisions of awards typically flow down to subcontractors. Therefore, the subcontractor(s) must follow the terms and conditions set forth in the agreement, especially as related to cost. For example, if the purchase of equipment is not allowed unless specifically approved by your sponsor in writing, then the subcontractor must also have such permission.

**Equipment**

Make sure to check the terms and conditions of your particular award document (and any general terms and conditions it may incorporate by reference) for information related to equipment. The following discussion includes many of the common problems that result from acquiring and using equipment in a grant funded project. Any of these conditions require careful attention from time award is established through project completion.

All purchases funded by sponsors are subject to university policies and procedures.
Normally, there are four ways orders for equipment may be committed to vendors: by purchase order, department order, purchasing card transaction or blanket order. The direct buy limit is typically $2,500. Equipment and supplies costing in excess of that limit are competitively bid or ordered from a sole source vendor with the appropriate documentation.

Many institutions use a Property Inventory System as a point of audit focus. The proper identification and use of equipment is critical to the institution’s management of both the direct and indirect costs of research. The integrity of the system depends on individuals throughout the institution’s campuses paying proper attention to the acquisition, use, tracking, physical inventory and disposition of equipment.

At many institutions, capital equipment is defined as equipment having an acquisition cost of $5,000 or more, being non-consumable (doesn’t change form with use) and having a useful life of more than one year. Fabricated equipment, where the aggregated cost of the components is $5,000 or more and where the fabricated asset has a useful life of more than one year, is also defined as capital. Capital assets are typically shown as received in the institution’s property inventory system within 10 days from receipt of inventory tag.

Some awards may also require advance notification or prior written approval from the Sponsor’s Grant or Contracting Officer before equipment can be purchased. This is particularly important during the beginning of a project (don’t order equipment prior to the effective date of the award unless authorized). It is equally important during the last 90 days of the award period.

If you intend to use a piece of equipment to support multiple projects, or to support both sponsored and unsponsored activities, there should be an appropriate, documented allocation of the cost. However, if scientific or other equipment is purchased to carry out a particular project, A-21 allows that the expense may be charged fully to the project, even if that equipment is used for other purposes after award has ended.

In addition, purchase of “general-purpose” equipment (for instance desktop computers) for a project, may need prior sponsor approval. Include a particularly clear justification in the proposal, and consider carefully the appropriate allocation of the cost of such equipment. As with administrative costs, the direct charging of “general-purpose” equipment or non-technical equipment is subject to significant audit scrutiny by the institution and possibly external reviewers. Such acquisitions are often unallowable.

It is important to get prior written permission from the sponsor before you do anything with equipment to which you do not have clear title, especially disposition of property. Other actions involving equipment commonly requiring permission include trading it in, taking it to another project or institution, or declaring it surplus. Before any equipment can be moved off-campus, all of the following officials and offices must approve the request:

1. Responsible department chair
2. Responsible dean or director
3. Director of Sponsored Programs Services

One key to effective property management is the early involvement of your Equipment Coordinator. In particular, it is important to keep him/her informed about the condition and location of equipment, especially when equipment is moved to an off-campus site, stolen or broken beyond repair. (Never throw items broken beyond repair out. Typically, Destruction Certificates are available from your institution.)

**Equipment Purchase**

**Taxation on purchases**

In most states the purchase of goods and services is generally, taxable (so when you prepare your budget for equipment, don’t forget to include cost of shipping and applicable tax); however, certain equipment purchased for institutional research and technological development activities may qualify for exemption from state sales and use tax. The tax exemption provides a cost savings dependent on state tax rates. Careful attention must be given to certifying purchases for tax exemption.

**Project Close-Out**

There are three elements to project close-out:

**Physical completion** - all work is completed under the project, all final reports/deliverables have been delivered and all property has been accounted for and/or returned to its owner or transferred as appropriate. Such reports include:

* a final technical report - submitted by the PI
* final inventions report - submitted by the Post Award Office upon certification by the PI
* final financial report - submitted by the Post Award Office upon the certification of expenditures by the PI/Department authorized designee.
* final property report – compiled and submitted by the Post Award Office after reconciling with the on-line Property Inventory System.

If it is required for reports from the sub-recipient to be included with reports to the sponsor, the sub-recipient’s deadline for report submission must be scheduled early enough so that his/her report can be included with the PI’s timely submission to the sponsor.

**Final Acceptance** - Projects are considered completed or terminated after the sponsor receives and approves all reports as required by the terms and conditions of the award, and notifies the institution of its acceptance and closure of the project.

**Final Payment** – All billing issues are resolved and all payments have been received, or it has been determined that no further payments will be received.

Reports required at the close of a project are generally due within no more than 90 days of the project end date.

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### Frequently Asked Questions:

1. **Q**- What if a student works on my grant for less than 12 months?  Does he/she need to complete the basic RCR training?  **A**- Yes.  All covered individuals must complete basic RCR training.
2. **Q** - Does a Responsible conduct of Research plan need to be included with my proposal?  **A**- For NSF, no. The institutional RCR plan (section 7009) is part of the institutional assurance and does not need to be included in the text of your proposal.  However, a mentoring plan (section 7008) is required if you request support for a postdoc. **A-**For NIH, yes.  See [NIH guidance](http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html%22%20%5Ct%20%22_blank) for more information.  A [template](http://media.clemson.edu/research/compliance/orc/rcr_nih_template.doc) has been developed to assist you in drafting this part of your proposal.
3. **Q**- Is this the same training required for IACUC, IRB or IBC applications? **A**- No. While animal welfare and human subjects protections are RCR topics, the online IRB and IACUC training modules do not meet the requirement for discussion-based contact hours.
4. **Q** - Can training sessions/courses taken last year be applied to these requirements? **A**- This decision will be left to the discretion of the PI.  If the PI believes the session is recent enough and relevant enough to meet the requirement, they should simply document it on the [RCR training documentation form](http://media.clemson.edu/research/compliance/orc/rcr_tracking.doc%22%20%5Ct%20%22_blank).
5. **Q**- Are my summer REU students required to complete the RCR training?  **A**- Based on the most recent REU information, NSF considers these students "supported" by NSF to conduct research.  Therefore, they must complete the relevant phase(s) of the training program.
6. [National Science Foundation RCR FAQ](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=rcrfaq" \t "_blank)
7. [National Institutes of Health RCR guidelines](http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html%22%20%5Ct%20%22_blank)
8. Council of Graduate Schools Scholarly Integrity and Responsible Conduct of Research (RCR) <http://www.cgsnet.org/scholarly-integrity-and-responsible-conduct-research-rcr>

Some of these sections make use of a publication of the National Academy of Sciences, "[On Being a Scientist: Responsible Conduct In Research](http://www.nap.edu/readingroom/books/obas/)." The National Academy of Sciences waives permission for the use of this material for educational purposes. Additional information has been adapted from “[ORI Introduction to the Responsible Conduct of Research](http://ori.hhs.gov/publications/ori_intro_text.shtml)” and “[Making the right moves, A practical guide to scientific management for postdocs and new faculty](http://www.hhmi.org/educational-materials/lab-management/for-early-career-scientists?utm_source=Paloma&utm_medium=Newsletter&utm_campaign=Career%20News%2018)” from the Burroughs Wellcome Fund and the Howard Hughes Medical Institute.

### Resources

The Office of Sponsored Programs will provide resources to support research programs and their implementation by the PIs.  Resources available include:

* Training opportunities for faculty involved in teaching RCR
* ORC sponsored RCR workshops to complement college and departmental offerings
* Individualized consultation and advice
* Online resources:
	+ Access to the CITI program
	+ Teaching resources, such as slide shows and case studies, for RCR education
	+ Online training modules
	+ A list of upcoming RCR offerings available on campus

### Research Ethics

* Join the [RCR Program Listerv](http://research.ucdavis.edu/r/ls/ls) to receive the newest information regarding the RCR Program
* UC Davis [2012-2013 General RCR Program Flyer](http://research.ucdavis.edu/c/cs/d/rcr-2012-2013-general-flyer%22%20%5Ct%20%22_blank)
* U.S. Department of Health & Human Services: [Office of Research Integrity](http://ori.hhs.gov/%22%20%5Ct%20%22_blank)
* National Institutes of Health (NIH): [RCR Training Requirements](http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html%22%20%5Ct%20%22_blank)
* National Science Foundation (NSF): [RCR Training Requirements](http://edocket.access.gpo.gov/2009/pdf/E9-19930.pdf%22%20%5Ct%20%22_blank)