

Dear Kettering University Faculty or Staff member:

The accompanying, long document attempts to explain the essence of Federally mandated Export Controls and the dire consequences of violations. Important points about this issue and the document include:

1. The majority of the text comes from documents used by the University of Texas at Austin and by the Massachusetts Institute of Technology.
2. The ambit of Export Controls, and their potentially disastrous penalties for violations, extends to acts that could take place on our campus. One does not need to send/export an object overseas for a violation to take place.
3. Broad exemptions from the strictures of Export Controls exist for the sort of routine teaching and publishable research that is expected to take place at KU.
4. An ongoing process of discovering if KU has any research or technology that should not be disclosed to persons not having US citizenship is underway. Many of you will be asked to describe the technologies used or developed in your research.

This is a serious issue with potentially horrific personal consequences and therefore you need to be conscious of the issue. Please read the accompanying document and please assist with disclosing your technologies. Probably, it will become apparent that few, if any, laboratory areas or technology areas at KU will need to be shielded from non-citizens.

Thank you for your cooperation.

Export Controls Committee of Kettering University

Beckie Campbell
Jodi Dorr
Tony Hain
Luchen Li
James M^cLaughlin
W. L. Scheller

Introduction to Export Controls

The export of certain technologies, software and hardware is regulated and controlled by Federal law for reasons of national security, foreign policy, prevention of the spread of weapons of mass destruction and for competitive trade reasons. Kettering University and all its employees are required to comply with the laws and implementing regulations issued by the Department of State, through its International Traffic in Arms Regulations (ITAR), and the Department of Commerce, through its Export Administration Regulations (EAR). Violations of the requirements can lead to criminal sanctions (including monetary fines and/or prison sentences for individuals).

In the aftermath of September 11, 2001 and the increased security needs of the United States, the importance of compliance with these regulations has increased. Research contracts and agreements received by universities from sponsors, both Federal and industrial, in which export control provisions are contained, have increased significantly. The purpose of this memorandum is to provide guidance to the faculty and other researchers in the application of the export control regulations in order that they may understand their obligations under these regulations and adhere to them.

Exports are primarily controlled by two different departments of the federal government. The Department of Commerce regulates the transfer and export of “dual use” technologies related to civilian applications via the Commerce Control List (CCL), found in the EAR at 15 CFR § 774 Supplement 1. The CCL regulates technologies and research in the following areas: nuclear materials, facilities, and equipment; materials, chemicals, microorganisms, and toxins; material processing; electronics; computers; telecommunications; information security; sensors and lasers; navigation and avionics; marine; and propulsion systems, space vehicles and related equipment. The Department of State regulates the transfer and export of technologies relating to military applications via the U.S. Munitions List, found in the ITAR at 22 CFR § 121. The U.S. Munitions List defines “articles, services and related technical data [that] are designated as defense articles and defense services pursuant to §§38 and 47(7) of the Arms Export Control Act (22 U.S.C. 2778 and 2794(7)).”

Additionally, the Office of Foreign Asset Control (“OFAC”) of the U.S. Department of Treasury is tasked with the administration and enforcement of trade sanctions based on U.S. foreign policy and national security goals. OFAC maintains a list of organizations and individuals known as the Specially Designated Nationals List (“SDN List”). Assets of SDNs are blocked and U.S. persons are generally prohibited from dealing with them. A copy of the list can be found at: <http://www.treas.gov/offices/enforcement/ofac/sdn/index.shtml>. Additionally, the EAR contains a list of names of certain foreign persons – including businesses, research institutions, government and private organizations, individuals, and other types of legal persons – that are subject to specific license requirements for the export, reexport and/or transfer (in-country) of specified items. The Entity List can be found at: <http://www.bis.doc.gov/entities/default.htm>.

All exports from the United States require some type of authorization, and the regulations govern almost every field of science and engineering; however, only a very small percentage of exports actually requires a license. The good news for Kettering University is that the regulations provide for an exclusion from the licensing requirements for some of our research activities through an exclusion for the conduct of fundamental research. “Fundamental Research” is defined under the EAR at 15 CFR § 734.8 and under the ITAR at 22 CFR § 120.11 and includes

basic or applied research in science and/or engineering where the results of the research are ordinarily shared with the scientific community, published in the public domain and made accessible and available to the public. The research will lose the exclusion and not qualify as “fundamental research” under the ITAR and EAR, however, if: (a) the research agreement contains any prior approval requirements or any other restrictions on the publication of the information resulting from the research, other than reasonable pre-publication *review* to determine whether a sponsor’s confidential information provided to Kettering University is contained in the publication and to insure that patent rights are not compromised by the premature release of information; or (b) the prime funding for the research is federal and specific controls over the access to and dissemination of information are contained in the agreement.

With respect to export control, it is important to understand: (1) the nature of the technology that is export controlled and how it is recognized, (2) the fundamental research exclusion noted earlier, and (3) the concept of a “*deemed export*.” In addition, please note the following special considerations:

Licenses under the ITAR and EAR are required only for exports that the U.S. government considers “license controlled” (some controlled exports don’t require a license). Reasons for control over the export usually arise due to the nature of the export or concerns of the Government with:

- the actual or potential military applications of the export or economic protection issues
- the destination country, organization, or individual, or
- the declared or suspected end use of the end user of the export

Although an item may appear on one of the lists of controlled technologies, an exclusion for fundamental research is generally available as long as the research or information is made public or is intended to be made public. In some cases, publication or dissemination of information about the research is restricted by the funding source. The Office of Sponsored Research should be consulted to determine if a restriction on sharing information applies to a particular research project.

However, when an item is controlled technology, a license may be required before the technology (both information and hardware, including prototypes or software) can be exported or any disclosure may be made to a foreign national/entity. “Export” can mean not only technology leaving the borders of the United States (including transfer to a U.S. citizen abroad whether or not it is pursuant to a research agreement with the U.S. government), but also disclosing or transmitting the technology to an individual other than a U.S. citizen or permanent resident within the United States. Prohibitions against disclosure or transmission includes verbal disclosure, visual inspection, electronic or digital transmission, or by actual shipment of any covered items of any software, technical data, technology or equipment covered by the regulations, including the research results themselves. A “deemed export” requiring an export license and imposing access restrictions occurs whenever a foreign national on U.S. soil may be exposed to or have access to an item controlled by these regulations. A disclosure to a foreign researcher or student in a University laboratory is considered a “deemed export.” For example, a faculty member’s oral disclosure or demonstration of technology to a foreign national in a University laboratory may be a “deemed export” under the regulations and would require an export license prior to such disclosure or demonstration in order to avoid violation of the law and possible personal criminal and civil penalties. Other

examples where export control applies include the return of foreign equipment to its country of origin after repair in the United States, and University generated email or other electronic transmission of non-public data that would be received, directly or indirectly, abroad.

With respect to certain countries, it is the policy of the United States generally to deny licenses for the transfer of ITAR controlled items, technical data, or the providing of a defense service. These countries are currently Afghanistan, Armenia, Azerbaijan, Belarus, Cuba, Iran, Iraq, Libya, North Korea, Sudan, Syria, Tajikistan, and Vietnam. A complete and updated list of ITAR proscribed countries can be found at: http://www.pmddtc.state.gov/regulations_laws/documents/official_itar/ITAR_Part_126.pdf.

Export issues can also occur unintentionally during international travel. Kettering personnel should be aware of the potential export control issues when presenting at international conferences, as well being alert to the information contained within laptops, PDAs, memory sticks or other forms of digital storage when traveling outside of the United States. Exemptions are allowed for the transfer from Kettering University to a traveling faculty member of technical data concerning an EAR or ITAR controlled item or project during international travel, but the transfer must be properly documented. The exemptions do not apply to all countries and all research.

Fortunately, the great majority of the research activities in which Kettering University is involved are excluded from export controls because Kettering University can assert the fundamental research exclusion. However, when this is not the case (such as when one needs to export a tangible research item, such as a prototype or software), it is critically important to begin the process of seeking a license from either the Department of Commerce or State (as applicable) early, since it can take six months or longer to receive a license after the submission of the license application.

Attached is additional information that will help in addressing these difficult but critical issues. For questions about determining if a particular item or research initiative requires an export control license, Kettering University's contact point is Jodi Dorr in the Office of Sponsored Research, 762-7996. For questions about travel issues, please contact the Office of International Programs, 762-9869.

Portions of the above text courtesy of the University of Texas, Austin.

United States Export Control Laws

Current export law controls both hardware and information concerning a wide range of technologies in a way that may have a substantial impact on research at Kettering University. Federal regulations control the conditions under which certain information, technologies, and commodities can be transmitted overseas to anyone, including U.S. citizens, or to a foreign national on U.S. soil. The following Q&A may help clarify some of the requirements.

1. What is an export?

The export regulations define an export as:

- Any oral, written, electronic or visual disclosure, shipment, transfer or transmission outside the United States to anyone, including a U.S. citizen, of any commodity, technology (information, technical data, or assistance) or software/codes
- Any oral, written, electronic or visual disclosure, transfer or transmission to any person or entity of a controlled commodity, technology or software/codes with an intent to transfer it to a non-U.S. entity or individual, wherever located (even to a foreign student or colleague at Kettering University)
- Any transfer of these items or information to a foreign embassy or affiliate

It is important to emphasize that only exports for which the U.S. government requires a license are those that are listed on the export controlled lists. The vast majority of exports do not require the prior approval of the U.S. government.

2. Who controls exports?

There are two agencies that control exports:

- The Department of Commerce through its Export Administration Regulations (EAR), Title 15, sections 730-774 of the Code of Federal Regulations. For a list of controlled technologies, see 15 CFR 774, Supplement I.
- The Department of State (which controls the export of “defense articles and defense services”) under the International Traffic in Arms Regulations (ITAR), 22 CFR 120-130. For a list of controlled technologies, see 22 CFR 121.1.

A complete on-line version of the EAR and ITAR (including the critical technology list) is available. The complete text of the ITAR and the USML is available online at the Department of State Directorate of Defense Control website:

http://www.pmdtc.state.gov/regulations_laws/itar.html. The complete text of the ITAR and the USML are also available online at the government Publishing Office website:

<http://www.gpoaccess.gov/ecfr>.

The complete text of the EAR and the CCL is available online at the Export Administration Regulations Database: http://www.access.gpo.gov/bis/ear/ear_data.html. The complete text of the EAR is also available online at the Government Publishing office website

<http://www.gpoaccess.gov/ecfr>. The CCL can be found at:

http://www.access.gpo.gov/bis/ear/ear_data.html#ccl.

3. What is considered fundamental research?

Fundamental research, as used in the export control regulations, includes basic or applied research in science and/or engineering at an accredited institution of higher learning in the United States where the resulting information, in some cases, is ordinarily published and shared broadly in the scientific community and, in other cases, where the resulting information has been or is about to be published. Fundamental research is distinguished from research that results in information that is restricted for proprietary reasons or pursuant to specific U.S. government access and dissemination controls. University research will not be deemed to qualify as fundamental research if (1) the university or research institution accepts any restrictions on the publication of the information resulting from the research, other than limited prepublication reviews by research sponsors to prevent inadvertent divulging of proprietary information provided to the researcher by the sponsor or to insure that publication will not compromise patent rights of the sponsor; or (2) the research is federally funded and specific access or dissemination controls regarding the resulting information have been accepted by the university or the researcher.

4. What is considered published information as used in question 3?

The EAR and the ITAR approach the issue of publication differently. For the EAR, the requirement is that the information has been, is about to be, or is ordinarily published. The ITAR requirement is that the information has been published.

Information becomes “published” or considered as “ordinarily published” when it is generally accessible to the interested public through a variety of ways, including publication in periodicals, books, print, electronic or any other media available for general distribution to any member of the public or to those who would be interested in the material in a scientific or engineering discipline. Published or ordinarily published material also includes the following: readily available at libraries open to the public; issued patents; and releases at an open conference, meeting, seminar, trade show, or other open gathering. A conference is considered “open” if all technically qualified members of the public are eligible to attend and attendees are permitted to take notes or otherwise make a personal record (but not necessarily a recording) of the proceedings and presentations. In all cases access to the information must be free or for a fee that does not exceed the cost to produce and distribute the material or hold the conference (including a reasonable profit).

5. What is public domain and why is it important?

Public domain is the term used for “information that is published and generally accessible or available to the public” through a variety of mechanisms. Publicly available software or technology is that which already is, or will be, published. To fall under the exclusion, there are a number of conditions that demonstrate public availability, which are enumerated in the EAR.

6. If a license is needed, what is the process?

To apply for a license, please contact Jodi Dorr in the Office of Sponsored Research. It normally takes 4-6 months to secure a license to export controlled materials from the U.S. or to transmit them to a non U.S. citizen or permanent resident within the U.S.

Portions are courtesy of Massachusetts Institute of Technology

Do I Need To Be Concerned about Export Controls?

I. DO I NEED TO BE CONCERNED ABOUT EXPORT CONTROLS?

A. NO, IF...

1. PUBLIC DOMAIN: (i) **Equipment/Encrypted Software/Listed-Controlled Chemicals, Bio-Agents/Toxin** is **not** involved, **AND** (ii) there is no reason to believe that **Information** or non-encrypted **Software** being released, whether in the U.S. or abroad, will be used in/for a weapon of mass destruction, **AND** (iii) any U.S. government funding does not impose export controls, **AND** (iv) the **Information/Software** is **already published**, not just ordinarily published, through/at one or more of the following-

- Libraries open to the public or unrestricted subscriptions, news-stands, book stores for a cost not exceeding reproduction/distribution cost (including a reasonable profit),
- Published patents,
- Conferences, meetings or seminars in the U.S. which are generally accessible to all members of the public, free of charge, and where Kettering University does not have knowledge or control of who visits the site or downloads the software/information, and/or
- General science, math or engineering commonly taught at, and offered in course catalogues of, a university.

Transfer to foreign students/visitors in the U.S. (“deemed export”) or communication/transfer to researchers abroad (“export”) is permitted as long as I.A.1 above applies. For prudence, if involving OFAC embargoed or ITAR or EAR restricted countries (see II.B and III.A), always contact the Office of Sponsored Research first. Restrictions and licenses may apply to travel to embargoed countries or to dealing with specified persons (e.g., terrorists, drug kingpins).

OR

2. FUNDAMENTAL RESEARCH: (i) **Equipment/Encrypted Software/Listed-Controlled Chemical, Bio-Agent/Toxin** is not involved, **AND** (ii) there is no reason to know that **Information** or non-encrypted **Software** will be used in/for a weapon of mass destruction, **AND** (iii) the **Information/Non-Encrypted Software** is being released to foreign nationals in the U.S. only (deemed export), **AND** (iv) it is the result of scientific or engineering research at an accredited university in the U.S. to which no publication restrictions apply (other than a short period in which to seek patent protection or remove sponsor proprietary data (under Commerce Control List (CCL) and, probably U.S. Munitions List (USML) – see I.B), **AND** (v) it is not proprietary and is ordinarily published and broadly shared in the scientific community – no side deals. If information/software is on the USML, it must actually be published (See I.A.1 above).

Transfer/communication to any foreign national in the U.S. only at an accredited university (deemed export) is permitted.

B. MAYBE, IF...

1. (i)**Equipment** or **encrypted Software** is involved, **OR** (ii) I.A above doesn't apply, **AND** exposure to foreign nationals (even on campus) or transfer or travel outside of the U.S. is involved **AND—**

a. the Equipment, Software, Technology is on the Commerce Control List (CCL) under the Export Administration Regulations (EAR) http://www.access.gpo.gov/bis/ear/ear_data.html (note, EAR 99 on the CCL is a “catch-all” category and virtually all technology not otherwise captured falls in this category, although licenses are not required, except to specified destinations/users),

b. you are providing information or instruction concerning equipment or software referred to in a, or

c. the foreign nationals are from, or the destination is to, any OFAC embargoed country (Cuba, Iran, Iraq, Libya, North Korea, Burma, Liberia, Sudan, Syria, Sierra Leone, Zimbabwe).

If a, b, or c apply, you must contact the Office of Sponsored Research for an analysis of whether an export license is required (and whether it will be presumed to be granted or denied) before any foreign national is involved or transfer out of the U.S. occurs. Please contact the Office of Sponsored Research as early as possible. Licensing takes time and the Office of Sponsored Research can assist you to avoid undue delays in your research.

C. YES IF... the Equipment, Software, Chemical-Bio, or Technology is on/controlled under the USML under the International Traffic in Arms Regulations (ITAR),

YES IF... the Equipment, Software, Chemical-Bio, or Technology is designed or modified for (i) a military use, (ii) use in outer space (unless limited exception in 22 CFR 123.16(b)(10) or 125.4(d) applies), or (iii) there is reason to know it will be used for/in weapons of mass destruction.

D. YES IF... Chemicals, Bio-Agents/Toxins on CCL are involved. EAR license required (i) for all countries if listed for chemical-bio weapons control (CB); (ii) for Ricin and Saxitoxin for all countries not a Chemical Weapons Conventions (CWC) party.

-License mostly considered on case-by-case basis if listed for CB or AT purposes – will be denied if listed for CW purposes and export is non-CWC countries.

-License will be denied to Syria and embargoed countries and end users, and, for Ricin D and E CW chemicals/toxins for countries not a party to the CWC.

II. DO I NEED A LICENSE IF INFORMATION, SOFTWARE, EQUIPMENT, CHEMICAL-BIO IS NOT ON THE USML AND IS ON THE CCL AS EAR 99 ONLY?

A. NO, IF – Equipment, encrypted Software, Chemical-Bio is not involved, and information or non-encrypted software is *not subject to EAR in the first place because*:

1. I.A above applies or it is “publically available” –

- at a conference, meeting, or seminar, whether in the US or abroad, where the fee is reasonably related to the cost, attendance is unrestricted or is on a first to register or technical qualification basis, and all attendees may take notes.

OR

2. It is “educational information” –

- released through instruction in a course offered by an academic institution, wherever located, in its course catalogue or in associated teaching laboratories.

EAR export controls don't apply even if OFAC embargoed countries are involved.

B. MAYBE, IF EQUIPMENT, LISTED CHEMICALS BIO-AGENTS/TOXINS, or ENCRYPTED SOFTWARE ARE INVOLVED OR I.A ABOVE DOES NOT APPLY AND...

1. The destination is a country with restricted entities on the EAR “entity list” at 15 CFR 744, Supp. 4), or

2. The end user is on the EAR “denied person list” available at <http://www.bis.doc.gov/DPL/Default.shtm>, or

3. The destination is in/national is of an OFAC embargoed country (Cuba, Iran, Iraq, Libya, North Korea, Burma, Liberia, Sudan, Syria, Sierra Leone, Zimbabwe) or on OFAC prohibited list, or

4. The destination is in/national of another US-embargoed country (Rwanda and the OFAC embargo list).

III. IF ITEM, CHEMICALS, BIO-AGENTS/TOXINS, OR SOFTWARE IS ON USML/CONTROLLED UNDER ITAR, AND I.A ABOVE DOES NOT APPLY, ITAR LICENSE IS REQUIRED. WILL I GET A LICENSE?

A. NO, IF the foreign national (even at Kettering University) exposed is a national of Belarus, Cuba, Iran, Iraq, Libya, North Korea, Syria, Vietnam, Burma, China, Haiti, Liberia, Rwanda, Somalia, Sudan, or Zaire (Democratic Republic of Congo), or any UN Security Council arms embargoed country (Unita (Angola)) or the destination is a country on this list.

B. MAYBE OTHERWISE.

For questions about determining if a particular item or research initiative requires an export control license, Kettering University's contact point is Jodi Dorr in the Office of Sponsored Research, 762-7996. For questions about travel issues, please contact the Office of International Programs, 762-9869. Export control laws are complex and these thresholds do not cover all circumstances.

Regardless of any other provision, the knowing transfer of any item, software, commodity or technology to certain countries (and any related instruction or information transfer in the U.S. or abroad), for a nuclear, missile, or chemical/biological weapon end use is prohibited. Please contact the Office of Sponsored Research if such end use may be involved before any transfer begins.

Portions are courtesy of Massachusetts Institute of Technology